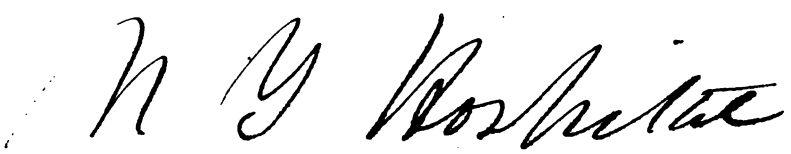

LECTURES

ON THE

DISEASES OF WOMEN.

BY

CHARLES WEST, M. D., ETC.

PART II.—DISEASES OF THE OVARIES, VAGINA, BLADDER, AND EXTERNAL ORGANS.

Directions to the Binder.—In doing up the two Parts in one volume, cancel the Title signature and Index of Part First, and substitute the corresponding portions of Part Second.

LECTURES

ON THE

DISEASES OF WOMEN.

BY

CHARLES WEST, M. D.,

AUTHOR OF "LECTURES ON THE DISEASES OF CHILDREN;"
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS;
EXAMINER IN MIDWIFERY AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND;
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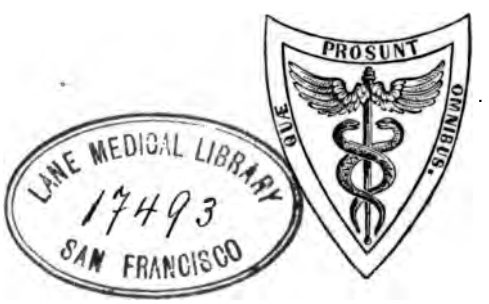
AND PHYSICIAN TO THE HOSPITAL FOR SICK CHILDREN.

COMPLETE IN ONE VOLUME.



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TO

PETER MERE LATHAM, M. D.,

PHYSICIAN EXTRAORDINARY TO THE QUEEN,

AND FORMERLY PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL;

WHO FIRST SHOWED ME HOW TO STUDY,

AND HOW TO PRACTISE MEDICINE;

WHO HAS OFTEN GUIDED ME BY HIS ADVICE;

STILL OFTENER TAUGHT ME BY HIS EXAMPLE;

AND WHO SMOOTHED BY HIS UNWEARIED KINDNESS

THE EARLY DIFFICULTIES OF MY CAREER;

TO MY RESPECTED TEACHER, MY GENEROUS FRIEND,

I MOST GRATEFULLY, MOST AFFECTIONATELY,

Dedicate

THIS BOOK.

*

ADVERTISEMENT TO THE FIRST PART.

THESE Lectures are a first instalment towards the discharge of that debt which the opportunities of a hospital, and the responsibilities of a teacher, impose upon me. A second volume, which will treat of all the remaining diseases of the female system, will appear, if health and strength are spared me, within three years from this time. I have published this part separately, because I believe that students and junior practitioners stand in much need of that help which, with reference to an important class of these ailments, it may perhaps afford them.

To almost all persons there is probably more of pain than of pleasure, in looking back upon a work on which much time and labour have been expended; so wide is, in general, the distance between the endeavour and its fulfilment. To myself, the consciousness of doubt has often, while engaged upon these Lectures, been very painful, and the sense of imperfect knowledge has pressed heavily upon me, and does so still.

I commend the book, however, to the kindly judgment of my professional brethren, as embodying the results of ten years of observation in the wards of a hospital, and of the honest attempt to gather from each day's added experience something more or better, for the use of those who look to me for help and guidance.

WIMPOLE STREET,
April, 1856.

ADVERTISEMENT TO THE SECOND PART.

A SHORTER time than I feared has sufficed for the fulfilment of my pledge in the completion of this work.

Many subjects, indeed, that deserve a longer notice, are touched on here but slightly, and others, of a purely surgical nature, are completely passed over, for I have not ventured to teach concerning matters with reference to which I feel myself to be still altogether a learner; while I have always regarded mere compilation, uncontrolled by large experience, as more apt to perpetuate error than to diffuse truth.

But I have a more agreeable duty to perform than that of confessing my shortcomings, and pleading in their extenuation. To one of my colleagues at St. Bartholomew's Hospital I have been constantly indebted wherever the aid of the surgeon was necessary; and Mr. Paget's dexterous hand, and sound judgment, and ready friendliness, were always given almost without the asking. Many cases, those especially of ovarian disease, we observed and treated together; and my opinions have often been modified, and my conduct influenced by his suggestions. My readers will reap the benefit; it is for me, with best and warmest thanks, to acknowledge the obligation.

The second part has been published separately, for the convenience of those having the first portion.

61 WIMPOLE STREET,
October, 1858.

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LECTURE XXI.

DISEASES OF PARTS CONNECTED WITH THE UTERUS. INFLAMMATION AND ITS RESULTS.

INFLAMMATION OF UTERINE APPENDAGES:—OF THE CELLULAR TISSUE.

Causes of affection—generally consequent on delivery or abortion—its various seats, and modes of termination—general tendency to end in suppuration. Morbid appearances.

Relation of this affection to inflammation of the ovaries—its analogy to other inflammations of the cellular tissue.

Symptoms—mode of attack twofold. Formation of abdominal tumour—occurrence of suppuration, but chronic character of the abscess—various outlets by which it discharges itself. Characters of intra-pelvic tumour—its similarity to uterine hæmatocele. General sketch of symptoms and course of affection.

THERE are many phrases which, though still daily used in medical writings, express not merely the opinions but also the errors of a bygone time. It is thus with the term *Uterine Appendages*, long applied to parts connected with the womb, some of which, indeed, are secondary to it in importance, and subsidiary to its functions, but others are physiologically of higher moment than the uterus itself, and originate those acts to whose due performance the womb does but minister.

I have no fear, however, lest by retaining the phrase *Appendages of the Uterus*, or by speaking to you about their diseases, I should be suspected of ignoring the office of the ovaries, or of implying that they are of less importance than the womb in the sexual system of the woman. I shall be understood to use the term merely as a convenient epithet, expressing without waste of words the broad ligaments of the uterus and all the various parts and structures contained within, or intimately connected with them; parts whose physiological import just now concerns us less than do the ailments to which they are liable.

When speaking of the diseases of the uterus itself we considered first, those which are the result of inflammation; and it will, I think, be convenient still to retain the same arrangement, and before passing to other subjects to study the *inflammatory affections of the appendages of the womb*. These admit of being classed under two heads, according as the inflammation attacks the ovaries themselves, or as it is chiefly limited to the cellular tissue in the immediate neighbourhood of the womb. In the latter case the symptoms are of course

modified according to the precise seat of the mischief, which, though most frequently involving the cellular tissue between the folds of the broad ligaments, sometimes attacks that which intervenes between the womb and the adjacent viscera, or extends to that lining the pelvic walls, or even to that which lies between the outer surface of the peritoneum and the abdominal muscles.

Inflammation of the cellular tissue in the neighbourhood of the womb takes place as a consequence of abortion or of delivery much more frequently than from any other cause. The great tendency that it has, too, to terminate in suppuration, familiarized practitioners of midwifery from a very early period with it; or at least with the abscesses to which it gives rise, though misconception long prevailed with reference to their nature. They were generally imagined to be secondary deposits, the result of a supposed metastasis of the milk, or of an outpouring of its elements when present in too great abundance in the blood. It was imagined, too, that this occurrence sometimes took place in one situation, sometimes in another, and the most various sequelæ of delivery were attributed to this as their remote occasion; a theoretical error, which as Puzos' essay, "Sur les Depots Laiteux,"[1] abundantly proves, did not at all interfere with the most accurate description of some of the most important ailments of the puerperal state.

With advancing knowledge the erroneous theory was discarded, but the inflammatory affections of the uterine appendages ceased to attract attention, or were passed over as occasional complications of puerperal fever, until attention was once more drawn to them quite recently by the essays of Doherty, Churchill, and Lever, in this country,[2] and by those of Grisolle, Marchal de Calvi,[3] and others, in France. Even at the present time, however, and in spite of the recognition of these ailments as attendants on the puerperal state, their occurrence, independent of pregnancy and its consequences, has scarcely been appreciated as generally as it deserves, and it is this circumstance which is my chief reason for bringing the subject now under your notice.

An attempt has been made by some writers to discriminate between inflammation of the uterine appendages occurring after delivery, and the same affection when coming on in other circumstances. I do not think, however, that this distinction is called for either by the symptoms of the disease, or by the treatment which it requires in the puerperal state, though the peculiar condition of the uterus at that time often imparts to disease in its vicinity a more acute character than would be presented by the same ailment at another season.

[1] In his *Traité des Accouchemens*, 4to., Paris, 1759. See especially pp. 356—366.

[2] *Dublin Journal*, vol. xxii, 1843, p. 199; Ibid., vol. xxiv., 1844, p. 1; and *Guy's Hospital Reports*, Second Series, vol. ii., 1844, p. 1.

[3] *Archives Gén. de Médecine*, Third Series, 1839, vol. iv. pp. 34, 187, 293; and *Des Abcès Phlegmoneux Intra-Pelviens*, 8vo., Paris, 1844.

The subjoined table shows very clearly the influence of labour and its consequences in giving rise to inflammation of the appendages of the womb, and of the cellular tissue in their immediate vicinity. It shows, too, that almost invariably, even when labour did not precede the attack, some accident induced it, which acted immediately on the womb, such for instance as miscarriage, or disorder of the catamenia; while the cases were only 6 in 52, or 11.5 per cent., in which the attack was not brought on by some local ailment of the sexual system.

Occurred after	delivery in	27	cases
"	" abortion	10	"
"	" disorder of catamenia	7	"
"	" seduction, and some probable violence to uterus	1	"
"	" ulceration and inflammation of uterus	1	"
"	" no ailment of uterus	6	"
		52	

In 9 of the 27 cases in which the affection succeeded to delivery the patients were primiparæ; or if to my own cases those of Lever and of Marchal de Calvi be added, 27 out of 51 cases were those of women who had been delivered for the first time. The supposition, however, which this fact might seem to suggest, that protracted or difficult labour specially predisposes to this ailment, is scarcely borne out by further inquiry; since in 18 of my 27 cases, and in 7 out of 8 of those recorded by Dr. Lever, labour was in all respects natural. In 4 of my cases it was protracted, though in none was instrumental interference necessary; in Lever's case turning was performed on account of arm-presentation, in 1 case of mine extensive laceration of the perineum seemed to have been the point of departure of the whole of the subsequent inflammatory mischief, and in the remaining 4 labour was attended by profuse hemorrhage, an accident which also complicated one of the cases of tedious labour. From these data all that we can venture to affirm is the preponderance of frequency with which the accident occurs in primiparæ, and an increase of liability to its occurrence when labour is more than usually protracted, or when it is accompanied by hemorrhage. M. Grisolle expresses his belief that the omission on the part of the mother to suckle her infant is one of the most powerful predisposing causes of the disease, and this opinion is in the highest degree probable; but in this country it is so universally the practice for women, especially among the poor, to suckle their children, that none of my observations bear at all on that point.

The nature of the influence of abortion, of disorder of the catamenial function, or of other accidents which directly interfere with the sexual organs is too obvious to call for explanation. Why, under

the influence of such causes a woman should be seized in one case by violent, general peritonitis, in another by an ailment chronic in its course, and seldom dangerous to life, it is perhaps impossible to explain. In so far, however, as this disease is a consequence of labour, it must be borne in mind that it is essentially different from any of the complications or sequelæ of puerperal fever. Puerperal fever is a disease of the whole constitution, associated with important changes in the circulating system, probably with other alterations, too, which we have not at present the skill to discover; but the local mischief which may be found after death was no more its occasion, than are the ulcerations of Peyer's glands the occasion or the essence of typhoid fever. In puerperal fever, there may be evidence of injury to the uterus, or to its appendages, or to its vessels, or to the peritoneum, but there is this and something more; and this something more, the *divinum aliquid*, the το θειον of Hippocrates, has puzzled our philosophy, eluded our research, and outwearied the speculations of the most ingenious theorists who have laboured vainly to unriddle its nature.

Hence it is, however, that these inflammations of the uterine appendages, or of the adjacent cellular tissue, do not usually come before us in cases where puerperal fever has threatened life, for that disease either destroys the patient speedily, or with the abatement of the general disturbance of the system, the local evil, unless the mischief done was irreparable, abates too, and soon disappears completely. This ailment, on the other hand, begins as a local affection, its early symptoms are often so slight that it is overlooked for days or weeks together, the constitution sympathizing just in proportion to its extent and intensity, and general health returning as the consequence of the mitigation or of the cure of the local disease.

There does not seem to be any rule that determines absolutely either the part which shall be the seat of inflammation, or the course which that inflammation shall run, and whether it shall issue in suppuration, or may, by good fortune, terminate in resolution. The cellular tissue anywhere in the neighbourhood of the womb may be the seat of the mischief, though that contained within the folds of the broad ligament is attacked, as the subjoined table shows, far more often than the same structure in any other situation, or 34 out of 52 times. Next in frequency are the cases where the cellular tissue between the uterus and rectum is the seat of the affection, and which were met with 14 times; while those in which the tissue between the uterus and bladder is attacked are much rarer, and occurred only in 3 of the 52. Inflammation of the cellular tissue between the abdominal muscles and the peritoneum, the external peritonitis of some writers, is of very rare occurrence as an idiopathic affection, but far from unusual as a complication of inflammation of the cellular tissue contained within the folds of one or other broad ligament. The mischief is not, I believe, in the great majority of these cases, confined to the situation where the external tumour and

Table of Cases of Inflammation of Cellular Tissue in the neighbourhood of the Womb.

Parts Affected.	After delivery.	After abortion.	After disordered catamenia.	After seduction.	After inflammation and ulceration of uterus.	Independent of causes acting specially on the uterus.	Total.
Right side, without abdominal tumour	2	2	...	...	...	2	6
" with "	...	1	...	...	...	...	1
" " " and suppurating . . .	1	...	...	...	...	...	1
" " " suppurated, and with external peritonitis .	...	...	1	...	...	...	1
Left side, without abdominal tumour	6	1	1	...	...	1	9
" " " but suppurating . . .	1	...	1	...	...	...	2
" with "	2	...	...	...	...	...	2
" " " and suppurating . . .	1	...	2[1]	...	...	...	3
" " " suppurated, and with external peritonitis .	4	1	...	...	...	...	5
Both sides, without abdominal tumour	1	1	...	...	...	1	3
" " " suppurated, and with abscess in glutæus .	1	...	...	...	...	...	1
Tissue between uterus and rectum	2	...	...	...	...	1	3
" " " and suppurating . . .	2	3	2[1]	1	1	1	10
Tissue between uterus and bladder	...	1	...	...	...	...	1
" " " and suppurating . . .	1	...	...	...	...	...	1
" " " suppurated, and with external peritonitis .	1	...	...	...	...	...	1
External peritonitis alone, suppurated	2	...	...	...	...	...	2
	27	10	7[1]	1	1	6	52

[1] One case is included under both of these categories, which makes the real total under this heading 6, and the gross total 52.

abscess eventually form; but the cellular tissue covering the iliacus internus having been the original seat of the disease, the inflammation extends by degrees round to the front of the abdomen, though the matter which may form in that situation is by no means invariably discharged through the abdominal walls, but escapes in the majority of cases through some communication formed with the intestinal canal. The tendency to suppuration, and to the discharge of pus externally in all of these cases, seems to be very great, since it occurred in 27 out of 52 instances. This mode of termination of the inflammation appears also to be as frequent in cases independent of previous delivery or miscarriage as in those which are due to puerperal causes, since it happened in 9 out of 15 instances of the former kind, as well as in 18 out of 37 of the latter. I apprehend, too, notwithstanding the conflicting statements which have been made by different writers[1] with reference to this point, that the occurrence of suppuration, or, at least, of œdema, with infiltration of sero-purulent fluid, is in all these cases the rule rather than the exception, and this even though no discharge of matter should at any time take place externally. The extreme rapidity with which a tumour forms so as to be detected through the abdominal walls, or to be felt in other cases in the vagina, is explicable only by the sudden pouring out of fluid into the loose cellular tissue; while its varying extent, its ill-defined edges, its occasional disappearance from one side, and reappearance on the opposite, all serve to show that the mischief does not generally involve the substance of any solid organ such as the ovary, and consequently explain the completeness of the patient's recovery, and the subsequent integrity of all her sexual functions, even when the attack has been most severe and the symptoms have appeared most formidable.

It is comparatively so seldom that the disease terminates fatally that the opportunity of observing the nature and seat of the mischief while still in active progress rarely occurs. Some years ago, however, I was present at the post-mortem examination of a young woman who died twenty-one days after delivery. I had not seen her during her lifetime, but I learned that her labour had come on prematurely after frequently-recurring hemorrhage, that the placenta was found presenting, and that within a day or two after delivery she began to suffer from deep-seated pains in the back and pelvis, which extended by degrees over the abdomen, and which were accompanied by very distressing bearing-down efforts. The nature of her disease was not thoroughly understood during her lifetime; but after death her uterus was found pushed upwards and to the right

[1] M. Grisolle, in his paper already referred to, states that suppuration occurred in 16 out of 17 cases which succeeded delivery, and in 38 out of 51 cases that occurred independent of puerperal causes; while M. Gallard, in a recent very carefully written dissertation, *Du Phlegmon Péri-utérin*, 4to., Paris, 1855, alleges that suppuration took place only in 4 out of 53 cases, when the inflammation was independent of delivery. I scarcely need add that my experience inclines me to the opinion of M. Grisolle.

by a collection of more than eight ounces of chocolate-coloured grumous pus, which had formed in the loose cellular tissue to the left side and back of the organ; the upper part of the abscess reaching to about an inch and a half above the level of the os uteri. There was here no general peritonitis, no disease of the uterus itself, and both ovaries were perfectly healthy, death having taken place from inflammation and suppuration of the cellular tissue about the uterus just as it takes place from the same affection of the tissue between the rectum and bladder after the operation of lithotomy in the male subject.

Sixteen weeks after her second labour, a poor woman, aged twenty-five, died of exhaustion consequent on inflammation and suppuration in the cellular tissue adjacent to the uterus; on examination of the body after death two abscesses were found. One, the larger in size, situated in the cellular tissue in front of the right sacro-iliac synchondrosis, and extending for some distance behind the psoas muscle; the other to the left side of, and somewhat behind the rectum, containing a small quantity of discoloured pus, lined by a slightly rough, ash-gray membrane, bounded by walls of at least half an inch in thickness, reaching downwards to about two inches from the anus, upwards to a little below where the sigmoid flexure passes over into the rectum where the abscess communicated with the bowel by an opening about a third of an inch in its longest direction, which was transverse. There was no general peritonitis nor any fluid in the peritoneum; but bands of old adhesions, about half an inch long, connected the uterus and rectum, and retained the womb completely in the posterior part of the pelvis. There was no trace, however, of any intra-peritoneal cyst or sac containing pus, nor of anything more than the old adhesions just described.

The original seat of the mischief in the cellular tissue immediately adjacent to the uterus is further illustrated by the subjoined case, in which I had the opportunity of observing, after death, the process by which nature had effected the cure of an inflammation of the cellular tissue contained within the folds of the left broad ligament. The person on whom this observation was made was a young woman who died of abscess of the liver fourteen months after her recovery from inflammation of the uterine appendages of the left side. The results of examination when she was originally admitted into the hospital, six weeks after her delivery, were as follow: the abdomen generally was soft and painless, but immediately over the symphysis, extending about two inches above its level, and about the same distance transversely, was a firm, globular enlargement, very slightly movable, tender on firm pressure. The vagina was hot, its anterior wall from about half an inch from the orifice of the urethra was swollen into a distinct elastic tumour, which gave the sensation of containing fluid, and projected so as to contract to half its ordinary dimensions the calibre of the canal. In this tumour, which was not modified by the introduction of the catheter, the anterior lip of the uterus was lost,

while the posterior lip was small and natural. The right side of the uterus was free from any unnatural condition, the swelling existing to the left and anteriorly. The uterus and tumour, when pressed on, moved together, but their mobility was very small. In a few days the tumour, felt per vaginam, was greatly lessened after a profuse discharge of pus, and when the patient, after six weeks' sojourn, left the hospital, there was said to be no other morbid condition than a thickening at the left side of the uterus, by which it was almost completely fixed in the pelvis.

The appearances found after death explained this thickening, and accounted for the non-mobility of the womb, for the folds of the broad ligament, from the upper part of the vagina to the lower surface of the ligamentum ovarii, inclosed a mass of dense cellular tissue of almost cartilaginous hardness, crying under the knife; dense white bands intersecting each other in all directions, and having a firm yellow fat between them. This mass was closely adherent along the whole left side of the uterus, though the uterine tissue was in no respect implicated in it. The left Fallopian tube was tied at two or three points by long adhesions to the ovary and its ligament, and the ala vespertilionis on that side was thickened and uneven, as if from old deposits of lymph. The Fallopian tubes were pervious, and the ovaries were quite healthy, and contained several Graafian vesicles.[1]

Between the affection we are now studying and inflammation of the substance of the ovaries themselves the differences are obvious and manifold. The extreme rapidity with which matter is formed, and the large quantity of it which is secreted in so short a time, are not compatible with the seat of the disease in the substance of an organ furnished as is the ovary with a dense fibrous capsule, which, though elastic and admitting of vast expansion in the course of time, is yet not capable of yielding so as to allow of the accumulation of a large quantity of matter in a few days. The termination of ovaritis by suppuration is, I believe, quite exceptional. In the puerperal state it is the peritoneal investment of the ovaries which is usually affected; while when inflammation even of the acutest kind attacks

[1] I have related these details of post-mortem appearances more at length than I otherwise should have done, because in the *Archives de Médecine* for March and April, 1857, M. Bernutz has thrown doubt on the reality of the supposed inflammation of the cellular tissue in the neighbourhood of the uterus. He suggests, on the strength of three observations, that these cases are in reality cases of inflammation of the peritoneum lining the pelvis; that the supposed abscesses are nothing else than circumscribed collections of matter, produced by the cohesion of convolutions of intestines to each other; or by their connection with some part of the wall of the pelvis; or with some of the organs contained within it. That such cases occur no one can doubt; that some of the large collections of matter forming tumours of considerable size felt through the abdominal parietes, have this origin must also be admitted; but I do not think that the majority of instances of what French writers call *phlegmon péri-uterin* are in reality misinterpreted peritonitis. I believe the affection of the cellular tissue to be by far the more frequent occurrence, and generally the primary ailment, and am of opinion that M. Bernutz has fallen into the error of stating as the rule what is indeed the somewhat rare exception.

the substance of those organs, and ending in the formation of matter proves speedily fatal, it does not lead to any great increase of their size, but to softening and complete disintegration of their tissue. When, in other circumstances, large collections of matter form within the ovary, their origin is usually traceable to some cyst in whose wall inflammation has been accidentally set up; and such ovarian abscesses generally remain for a long time as distinct, well-circumscribed tumours, whose contents are very slow in making their way outwards. Generally, indeed, ovaritis is not only a far more chronic evil than inflammation of the cellular tissue about the womb, and is attended by pain of a very different character, but the enlargement of the organ is always inconsiderable, and its situation is often inferred from pain produced by pressure at one spot rather than clearly pointed out by any considerable increase of its dimensions, while the thickening and hardening of the vaginal walls, scarcely ever absent from that side of the canal on which the affection of the cellular tissue is situated, is never met with in cases of simple ovarian inflammation.

The analogies of this affection are, I believe, rather to be found among those inflammations of the cellular tissue which, succeeding to operations, advance with great rapidity, and, terminating soon in the formation of enormous quantities of matter, constitute one of the most untoward of those accidents by which the skill of the surgeon is disappointed of best-merited success. The rapid formation, and occasional rapid disappearance, of the swelling show, if further proof were wanting, that it is not due to changes in the solid tissues of any organ, but rather to œdema or the infiltration of a loose tissue with fluid. This fluid, too, like that which is formed in other inflammations of cellular tissue, is not at first genuine pus, but a thin sero-purulent matter, and often still retains this character long after it has been formed in quantity sufficient to impart to the fingers a most marked sense of fluctuation.

These characters then correspond to those of diffuse cellular inflammation, or "acute purulent œdema," as it has been well termed by the distinguished Russian surgeon, Pirogoff.[1] If we take this view, which he indeed suggests, even the most anomalous features of the affection will become comparatively easy to understand. We shall not be surprised that the disease should occur in the weakly rather than in the strong, that previous hemorrhage, or other debilitating influences should favour its development, that while often attended by comparatively little local suffering, it should yet run rapidly through its earlier stages; but still, now and then, come suddenly to a standstill, and that all trace of it should then quickly disappear. Since we know, too, that the seat of the mischief is not in the sexual organs themselves, but only in their connective tissue, we shall find nothing difficult of explanation in the re-establishment of menstruation, or in the recurrence of pregnancy, or in the regular per-

[1] *Klinische Chirurgie*, Drittes Heft, 8vo., Leipzig, 1854, pp. 36—54.

formance of all the generative functions, even after symptoms which had seemed most formidable, and had appeared as though they must imply that injury had been done passing the power of nature to repair.

In those cases in which the affection succeeds to delivery or abortion, its *mode of attack seems to be twofold.* Either it sets in with well-marked symptoms of constitutional disorder, such as general feverishness and heat of skin, and sometimes, though not often, preceded by shivering, accompanied by abdominal pain, which is seldom very intense; or else it comes on gradually, the local evil being developed almost imperceptibly out of a state of incomplete convalescence; while it is quite an exceptional occurrence for severe puerperal peritonitis to precede the inflammation of the uterine cellular tissue. In the majority of instances the tenderness and pain, though referred chiefly to the lower part of the abdomen, are not at first distinctly limited to one or other side, and not unfrequently the discovery of swelling, induration, or even of a definite tumour in one or other iliac region by the medical attendant, is the first circumstance which directs the patient's notice to one spot as the special seat and source of her sufferings. The symptoms of general constitutional disorder, even when most marked at the onset, very rarely go on increasing in severity with the progress of the local mischief, but, having set in on the second or third day after delivery, subside at the end of a fortnight or three weeks. This subsidence of the symptoms too often takes place quite independently of the employment of any medical treatment; but the apparent convalescence thus established is not only imperfect from the first, but becomes every day more and more interrupted, as the local ailment advances, and now, if not earlier, distinctly manifests itself by abdominal pain, by painful micturition or defecation, or by some other symptom which clearly points to its situation.

It depends upon the situation of the affected parts whether or no any tumour is perceptible externally, for while always more or less manifest in cases where the parts contained within the broad ligament are the seat of inflammation, it is generally absent when the mischief is limited to the cellular tissue between the uterus and bladder, and always when it is confined to the parts in or about the recto-vaginal septum. The somewhat vague character of the symptoms in many of these cases, and the too common neglect of vaginal examinations, lead, in cases of this description, to very frequent mistakes as to the nature of the patient's ailment, and mistakes all the less excusable since there are few ailments whose diagnosis is more simple if the investigation is properly conducted. It is not easy to say at how early a period after the commencement of the attack a swelling forms, so as to be detectable on examination; but my impression is, that though often not discovered till after the lapse of many days, it usually occurs very speedily. Careful examination, even two or three days after the symptoms began, will generally

ascertain the existence of fulness in one or other iliac region, will find that on pressure there the complaint of pain is greater than elsewhere, and that percussion in that situation yields a dull sound, and conveys a sense of solidity not perceptible on the other side. In such circumstances, local depletion will not only afford immediate relief to the patient's sensations, but that relief will be accompanied by a disappearance of the swelling so complete and so speedy as to raise a momentary doubt in our minds as to whether the impression of its existence was not a mistake. The doubt, however, would be unfounded: the swelling was very real, due to œdema of the cellular tissue, in which, but for our treatment, suppuration would soon have taken place, as indeed it does in the great majority of cases, and then condemns the patient to a tedious illness, and a tardy convalescence. The same rapid formation, and rapid disappearance of the swelling, receive another illustration in cases where a sort of metastasis of the inflammation takes place, or where, to speak more correctly, the mischief, originally situated on one side, attacks without apparent cause the other also; and the new complaints of pain in a different situation are accompanied by tumefaction there, which may be very temporary; or may, if the inflammation there advance, become as solid, and prove as permanent as that on the other side. It is not possible to fix the precise limits of time within which resolution of the swellings may take place. My impression, however, is that the period is very short, and that after the lapse of a few days, at furthest, the changes are far too considerable for any rapid cure; and that pus is early formed, though the processes by which it makes its way to the surface are generally very tardy, and those are slower still by which, without any escape of matter externally, its complete absorption is now and then effected. The formation of matter is by no means invariably followed by any marked increase in the sufferings of the patient; and it is surprising how the constitution bears its presence even in considerable quantities, the mechanical inconveniences produced by the pressure of the abscess being not unfrequently those from which the patient suffers most, and which drive her at length to seek for medical assistance. Thus, a young woman, aged twenty-five, was admitted in the year 1849 into St. Bartholomew's Hospital, having been ill since her delivery seven months before. On the ninth day after her confinement she was attacked by abdominal inflammation, the more acute symptoms of which subsided under depletion, and she attained a state of imperfect convalescence. She went about some of her household duties, though with difficulty, and even cohabited with her husband in spite of the pain by which sexual intercourse was attended. When she sought for admission into the hospital it was on account of increased difficulty in micturition, and frequent desire to pass water. On examination of her abdomen an oval tumour was discovered in the mesial line reaching midway between the symphysis pubis and the umbilicus, and produced by a collection of pus in the cellular tissue between the uterus and blad-

der, ten ounces of which escaped on a puncture being made into it through the vaginal wall. The patient alleged that the tumour had existed only for three weeks; a statement which can scarcely be received as correct, since she had never thoroughly recovered from the illness which followed her delivery; but which may be accepted as evidence that the abscess had produced no special effects, till by its increased size it began mechanically to occasion discomfort, and to interfere painfully with the functions of her bladder.

Another illustration of the same fact may be adduced in the person of a young woman in whom constipation from the fourth to the eighteenth day after her first confinement was followed by inflammation of the cellular tissue behind the rectum. The action of her bowels was from this time attended by great pain, and costiveness alternated with diarrhœa, the evacuations being not unfrequently intermixed with pus. In spite of these symptoms, however, she gradually regained her general health, and menstruation returned, though not regularly. Seventeen months after her confinement she had been visiting the Crystal Palace, in Hyde Park, and while returning home in an omnibus, the jolting of the vehicle occasioned the sudden bursting of an abscess, and the discharge of about three pints of matter streaked with blood per anum. For the next three months from that time more or less copious purulent discharges took place from the bowel, behind which the abscess whence it proceeded was situated, forming there a tumour of about the size of a small apple. Occasional local leeching, and the most sedulous attention to the state of the bowels were succeeded by the cessation of the discharge, and the ultimate complete disappearance of the tumour, of which six years afterwards no trace existed.

The presence of any collection of pus so considerable as that which existed in these two cases is decidedly unusual, for the mischief is generally more circumscribed, and a wall of condensed cellular tissue surrounds the collection of matter, and prevents the extension of suppuration. But though the size of the abscess is not usually very great, it not unfrequently passes into a chronic state, and emptying itself, usually through some narrow passage of communication, into the bowel, the patient continues for months or years liable to occasional discharges of pus per anum, the commencement of which dates back to some attack of inflammation of the cellular tissue years before. In the case of a poor woman who died after long suffering from ulceration of a quasi-malignant character about her urethra and rectum, a collection of matter was found in the midst of the thickened and condensed cellular tissue by the side of the rectum, and between it and the uterus. This abscess, too, was lined by a membrane so distinct, so smooth and polished, as for a moment to raise the question whether it was not a distinct cyst in which suppuration had been accidentally excited. A patient was some years ago under my care in whom inflammation of the cellular tissue between the uterus and rectum having gone on to suppuration, it was considered expedient

to puncture the tumour which was found in the vagina. Not more than two ounces of sero-purulent fluid were evacuated by this proceeding, but from the puncture flowed for the ensuing seven weeks many ounces of pus daily, its quantity, however, diminishing, and the discharge at length completely ceasing as the patient advanced towards recovery, and as the swelling behind her womb diminished. In another instance, occasional discharges of matter took place from the bowel, and pus was often intermixed with the feces, five years after the first symptoms of inflammation of the cellular tissue about the uterus, the chronic results of which were still evident in a tumour which was closely connected both with the rectum and the womb. These chronic abscesses generally contract, and the fistulous passages which lead to them become by degrees obliterated, but exceptions to this now and then occur, two of which have come under my own notice, and Dr. Simpson[1] has reported some very interesting cases in which permanent fistulous communications have formed between the abscess succeeding to inflammation of the pelvic cellular tissue, and the bladder, uterus, or intestinal canal.

Often, though perhaps not always, the formation of abscesses having so chronic a character as those to which reference has just been made, might be prevented if the nature of the ailment were recognized at the commencement. The *diagnosis*, too, is not attended by much difficulty if only it is borne in mind that whenever after delivery or miscarriage ill-defined febrile symptoms occur, accompanied by abdominal pain, inflammation of the cellular tissue in the vicinity of the uterus is probably present, and this even though the constitutional disturbance should not be considerable, nor the pain experienced by any means severe. If now the inflammation is seated in that part of the tissue which lies between the folds of the broad ligament, there will at first be found in one or other iliac region a vague sense of fulness; percussion in that situation yielding a dull sound, and pressure being painful; and afterwards a more definite swelling. At no time, however, is this swelling so circumscribed that its border can be distinctly traced, nor is it movable like a fibrous tumour of the womb, or an enlarged ovary, but it is felt like a hard mass, extending laterally to the inner surface of the pelvic wall, and firmly adherent to it, reaching down into the pelvic cavity so that its lower border cannot be felt, while its upper and inner margin are both but vaguely marked; the thickening in those situations seeming rather to pass away by degrees than suddenly to cease. The dimensions of this swelling are always much more considerable from side to side than from below upwards; differing in this respect from tumours of the uterus or ovaries; its surface is even but extremely hard; it seems very superficial; the abdominal walls are not readily movable over it, but often seem as though they were adherent to it. This, too, they doubtless are in some cases, but the

[1] *Obstetric Memoirs*, vol. i. p. 232.

same sensation is very often communicated to the hand in instances where there is no reason whatever for supposing that adhesion has taken place between the opposite surfaces of the peritoneum, while further, the rapidity with which in some cases the apparent union is dissolved, shows that it must have depended on some cause of a much more temporary nature. My impression is, that it is due to œdema of the cellular tissue between the abdominal muscles and the peritoneum; a condition which not unfrequently terminates in suppuration, and thus constitutes what has been termed *external peritonitis*, but which in many cases is but an attendant on inflammation of the more deeply-seated tissues, increasing as that advances, remaining stationary when that comes to a stand-still, and rapidly disappearing as that begins to subside. An obvious lessening of the general fulness of the abdomen, and a sense of mobility of the abdominal walls over the tumour is one of the first signs of the patient's amendment, and one which often long precedes any alteration in the size or contour of the swelling; while next, as its size lessens, the previous adhesions between it and the pelvic wall become less firm, and its chief connection is felt to be not with the side of the pelvis but with some body at its centre; in other words, with the uterus itself. Up to the last, the indistinctness of outline which has been already noticed as characteristic of these swellings continues to distinguish them, and a vague sense of fulness in the iliac region remains long after all other evidence of their presence has ceased.

When suppuration takes place, the matter makes its way outwardly through the vagina, or through the intestinal canal, in almost all cases in which the inflammation is limited to the parts contained within the broad ligaments. In those cases, however, in which the pelvic cellular tissue is implicated, the matter not unfrequently makes its way round between the muscles and the external surface of the peritoneum, and the abscess points and discharges itself through the abdominal walls somewhere in the course of Poupart's ligament, or a little below that situation. It sometimes happens, however, that even after fluctuation has become distinctly perceptible through the abdominal walls, the abscess eventually bursts either through the vagina or the rectum, and in one instance a communication formed apparently about the situation of the sigmoid flexure of the colon; and after the escape of matter by the bowel, air was for many days distinctly perceptible in the sac of the abscess.

In cases of uncomplicated external peritonitis, and also in those where inflammation in this situation occurs simultaneously with that of more deep-seated parts, the tendency naturally is to the escape of matter externally. The swelling in cases of external peritonitis is harder and tenser than when the mischief is more deeply-seated, the integuments become red, shining, and brawny, and this condition extends lower down than when the inflammation is seated in the parts within the fold of the broad ligament, and reaches quite into the inguinal region. The quantity of matter formed in these cases

usually amounts to several ounces; the abscess pointing at one spot, and the whole of its contents escaping at a single aperture. Sometimes, however, in cases where inflammation of the uterine or pelvic cellular tissue is present, the tissue external to the peritoneum becomes affected secondarily; not by direct extension of the mischief to it, but rather by a sort of sympathy, and in this case two or three small circumscribed collections of matter are not unfrequently formed, each of which may require to be separately evacuated.

An examination per vaginam throws additional light upon the case, except of course in those instances in which the external surface of the peritoneum is alone affected. The vagina is hot, and puffy, and tender; and, according to the seat of the inflammation, either its anterior or its posterior wall is felt to be thickened, and hard like brawn; and the uterus itself is fixed by this thickening of the vagina more or less completely in the pelvis, and at the same time is carried by means of it higher up than natural, so as not to come as readily as usual within reach of the exploring finger. As the cellular tissue within the folds of the broad ligament is oftener affected than that in any other situation, so it is at the roof of the vagina, towards one or other side, and commonly extending somewhat round behind the uterus, that these characters are most marked. Soon, too, a distinct tumour is perceptible in addition to the general thickening, swelling, and hardness of the vaginal wall, and the swelling, if considerable, pushes over the uterus towards the opposite part of the pelvis. If seated at the side it does not in general dip down deeply into the pelvic cavity, and though it may be seized between the hand externally, and the fingers in the vagina, the state of the abdominal integuments, and the thickening of the roof of the vagina interfere with the accurate determination of its size and contour. If the mischief extends, as often happens, either in front or behind, a definite swelling is very likely to be formed, and this swelling is usually larger, and more distinctly circumscribed when situated behind the uterus than when occupying the cellular tissue in front of the organ. If the cellular tissue between the uterus and bladder, and along the anterior vaginal wall, is the seat of the inflammation, we may then find the hardened, thickened, tumefied state of the vagina reaching down to its very outlet, and the os uteri pushed quite out of reach by a swelling in front of it, not distinctly circumscribed, but passing over into the substance of the thickened anterior vaginal wall. If any large quantity of pus is formed in this situation, it does not commonly seem to increase very much the size of the pelvic tumour, but forms a distinct, well-defined swelling between the uterus and bladder, which rises up out of the pelvic cavity, and may be felt through the abdominal walls, occupying the situation, and having much the contour of the half-distended bladder. It is when seated behind the uterus, on the other hand, that the occurrence of suppuration is apt to give rise to the most definite pelvic tumour; for there is in this situation a greater obstacle than

elsewhere to the extension of the swelling upwards out of the pelvis, while the cellular tissue in the recto-vaginal septum is looser and more abundant than anywhere else in the immediate vicinity of the uterus. Here, then, matter very speedily forms, and gives rise to a swelling which occupies the whole posterior part of the pelvis, bulging out into it, just as an ovarian tumour is apt to do when seated in the recto-vaginal pouch, but more elongated in form, less globular, and while generally tense, yielding usually at one spot, perceptible through the vagina or through the rectum, a peculiar boggy sensation, suggestive of a thinning of its covering having taken place there, and of matter being likely to escape in that situation. The os uteri, too, will be found to be carried out of reach more completely than it would be by an ordinary ovarian cyst of equal dimensions, and the tumour itself to reach lower down, nearer to the orifice of the vulva, since it is not a mere swelling seated in the recto-vaginal pouch, but is formed in the substance of the septum itself, where the matter naturally gravitates lower and lower.

I do not know of any error which with moderate care can be committed as to the nature of these swellings, except in the rare cases of extravasation of blood into the cellular tissue behind the uterus, *uterine hæmatocele*, as it has been called; and in them the tumour very closely resembles that produced by suppuration in the same situation. The suddenness of the attack of uterine hæmatocele, its independence of delivery or abortion, and the general absence of thickening and hardening of the vaginal wall around the swelling will, I should imagine, usually enable us to discriminate between them; while happily there is no serious practical error to which a mistaken diagnosis would give occasion.

It is scarcely necessary to trace the further *progress of these swellings*, except, perhaps, to add two cautions: first, that the sense of fluid being contained within them is not unfrequently deceptive, so far at least that it would seem to imply in many instances the existence of a state of general œdema of the cellular tissue, and not such a definite collection of matter as could be evacuated by the trocar; and, second, that even after the actual evacuation of pus, there is seldom that immediate and great diminution of the swelling which we might beforehand anticipate; but the thickening of the cellular tissue which remains behind is not only considerable, but is many months before it is entirely removed.

The symptoms of the disease, even after it is fully established, and after the formation of a distinct tumour has taken place, are not in general of a very definite character. The patient's condition is one of weakness, illness, feverishness, with evening exacerbations, restless nights, and morning remissions, rather than one either of very great local suffering or very urgent constitutional disturbance, though when the affection has lasted very long, and is telling severely on the patient's powers, diarrhœa not unfrequently comes on, and the fever assumes a marked hectic character. The local suffering varies

much, according to the part which is chiefly affected; the sense of bearing down being most distressing when the recto-vaginal tissue is involved, and the frequent need of micturition most troublesome when the tissue between the uterus and bladder is the seat of inflammation. In all instances, however, the bladder sympathizes more or less with the inflammation in its vicinity, and some degree of dysuria and over-frequent micturition are symptoms scarcely ever absent. While in all cases, be the exact seat of the mischief what it may, there is more or less pain referred to the pelvis, more or less tenderness on pressure upon the abdomen, the amount of severe suffering varies very considerably, and varies, too, without any very obvious cause. A dull pain, a sense of weight, and a burning sensation seem to be constant, while very severe suffering is often produced by the attempt to stand or even to sit up. Sometimes, too, independent of any exciting cause, paroxysms of pain occur, of extreme violence, which last for an hour or two, and then subside, returning the next day or sooner, being equally violent, and passing off again of their own accord. The severest suffering generally takes place before the presence of matter in the swelling has become distinct, while afterwards during the long period which often elapses previous to the contents of the abscess finding an outlet, though the constitutional disorder may become more serious, the local pain generally abates. With the escape of the matter the relief obtained is usually far more decided, though this seldom occurs in a sudden gush, so as to give instant ease, but the aperture of communication with the abscess being very small, the matter for the most part escapes only in small quantities; or being poured out into the rectum, collects there till a few ounces have accumulated, and are expelled during some effort at defecation; while for days or weeks afterwards pus is intermingled with the feces, or a small discharge of it precedes their passage. In cases where the cellular tissue between the folds of the broad ligament is the seat of the inflammation, as well as in those where the tissue behind the uterus is affected, the escape of the matter generally takes place through the rectum; very rarely indeed through the vagina. The aperture of communication with the bowel is usually low down, though above the internal sphincter, and though commonly too minute to be detected, its situation may be guessed with tolerable accuracy, as the finger discovers some spot in the swelling where its parietes are soft and yielding. Once an iliac abscess on the left side, in which fluctuation was distinctly perceptible, while the redness of the abdominal integuments, and their firm connection with the swelling led one to expect that it would discharge itself externally, burst into the intestine, and the communication was free enough to allow of the entrance of air into the sac of the abscess, in which situation crepitation continued for days to be distinctly felt. In the mean time suppuration went on in the tissue beneath the abdominal muscles, and a distinct abscess formed there, which was afterwards evacuated by the knife. Twice also I saw an abscess discharge itself

through the bladder, though this occurrence was not final in either case, for in the one an abscess formed externally, and in the other it burst likewise into the intestinal canal, and the patient suffered for several weeks from diarrhœa, with discharge of pus per anum. In these cases, however, and also in others in which after an abscess has pointed or has actually burst in one situation, matter afterwards makes its escape in another, it is, I think, very doubtful whether both discharges took place from the same source, or whether there have not been two distinct abscesses perfectly independent of each other, and the one anterior to the other in the date of its formation. The disposition of this affection not simply to extend by direct continuity of tissue, but also to attack similar structures even when not immediately connected, is a feature of the complaint to which reference has already been made, and one which adds much to its gravity, and imposes on us the necessity of watching our patients most sedulously for a long time after they have seemed to be fairly in the way of convalescence.

The gradual progress of the patient towards recovery during the continuance of discharge from the abscess, and the slow processes by which the thickening and induration of the affected parts are by degrees removed, are unattended by symptoms calling for special description. Their history is one of a convalescence as irksomely slow in some instances as in other cases where the mischief having been seen and understood, and appropriate treatment having been early adopted, it is surprisingly rapid. The disposition to relapse, too, to the reproduction of fresh mischief in its old seat, or to the kindling of inflammation in some part previously unaffected, is never to be lost sight of, both as governing our prognosis and as regulating our treatment.

LECTURE XXII.

DISEASES OF PARTS CONNECTED WITH THE UTERUS—INFLAMMATION AND ITS RESULTS, AND KINDRED PROCESSES.

INFLAMMATION OF UTERINE APPENDAGES:—OF THE CELLULAR TISSUE.

Exceptional cases, consequent on peritonitis without special uterine disorder; important, but apt to be overlooked.

Treatment in recent stage, care during convalescence. In chronic stage; question of puncture; treatment of sequelæ.

HEMORRHAGE ABOUT UTERUS, OR UTERINE HÆMATOCELE. Seat and causes of extravasation of blood. Symptoms and course; case in illustration. Diagnosis; from extra-uterine pregnancy, from retroversion of the uterus, from pelvic abscess, from ovarian tumour. Prognosis.

Treatment; comparative merits of interference and expectancy.

IN all the cases of inflammation of the cellular tissue in the vicinity of the uterus which engaged our attention in the last lecture, the disease was spoken of as succeeding to delivery or miscarriage. In such cases the disorder of the puerperal processes by which it is accompanied usually gives to the attentive observer early notice of its occurrence. The *affection* may, however, come on quite *independently of puerperal causes*, and may sometimes, though I believe rarely, be wholly unconnected with any previous disorder of the uterus, or with any previous disturbance of its functions.

In cases of this last description, the local ailment seems usually to develop itself out of the symptoms of a general peritonitis of no very great severity, which, though relieved by treatment, have not altogether disappeared, but have become limited in extent, and have been referred to the uterus and the pelvic region, where a careful examination discovers just the same changes to have taken place as succeed to inflammation in the puerperal state.

A woman aged thirty-nine, married twenty-one years, thrice pregnant, her youngest child being eleven years old, was attacked while following her occupation at a mangle by sickness, retching, and pain in the abdomen, severest at its lowest part. She kept her bed for a week, then attended at the out-patient room of the hospital for ten days, during which time leeches were applied to the abdomen; and being afterwards admitted as an in-patient, she was further depleted, and subjected to a mercurial treatment, by which her mouth was made

slightly sore. Her severer symptoms were relieved by these means, but as she was not cured she was transferred to my care at the end of ten days more, or just a month from the commencement of her illness. At this time she complained of very severe pain at the lower part of her abdomen, extending to her back, and increased in paroxysms that came on causelessly; as well as of constant sickness after taking any food or drink, and of troublesome diarrhœa. Her abdomen was distended and generally tympanitic, but percussion yielded a dull sound in the right iliac region, though there was no distinct tumour to be there discovered. The uterus was found on a vaginal examination carried forward, and to the right side, by a tumour of stony hardness, smooth surface, and globular form, extending from near the left sacro-iliac synchondrosis, pushing the rectum before it and to one side, and occupying a great part of the pelvic brim. Tenesmus and pain accompanying the frequent efforts at defecation were for a time very distressing, but the appearance of pus in the evacuations, and its occasional discharge by the bowel unmixed with feces, were followed at the end of a week by much relief. At the end of six weeks the patient left the hospital, the tumour being much diminished, and the uterus having returned more nearly to its natural position, though being still firmly fixed in the pelvis, as indeed it continued thirteen months afterwards.

In this case the opportunity was afforded of watching the evil while still in progress, but accident sometimes brings cases before us where though the mischief already done is extensive, we can gather but little information as to the circumstances in which it originated. Inquiry may perhaps elicit a vague history of fever, or of an illness accompanied by disorder of the bowels, or by abdominal pain, but unattended as far as the patient knows by uterine ailment; and yet the womb may be firmly fixed in the pelvis, and thickening of the adjacent parts may plainly show that at some distant period the cellular tissue in its vicinity had been the seat of serious inflammation. In such cases there is no reason for doubting our patient's veracity; the symptoms of the slighter ailment were masked by those of the more grave disease, or perhaps were really by no means urgent in their character, and were regarded as only the ordinary discomforts of a tedious convalescence. They are of great practical importance, as illustrations of the necessity for watching very carefully the convalescence of patients who have been the subject of any illness in the course of which abdominal inflammation may by possibility occur. The mischief may possibly not entirely pass away, but, with few signs to betray its existence, may become limited to parts within the pelvis. It may then be confined to the peritoneal surface of the viscera, matting the different organs together by firm adhesions, which interfere with the elevation of the uterus out of the pelvic cavity, and thus in the event of pregnancy occurring give occasion to its premature termination, though absolute sterility is by no means an infrequent consequence of the attack. Or, instead of being limited to the perito-

neum, the inflammation may chiefly affect the cellular tissue in the vicinity of the uterus, and may issue in suppuration, or in deposit and permanent thickening, which may remain long after the acute disease is over, sometimes even after the memory of it has almost passed away. It behooves us then to bear these risks in mind, not to take the decline of the symptoms in such cases as a certain pledge of their complete disappearance; but so long as there is any pain or discomfort referred to the lower part of the abdomen or the neighbourhood of the uterus, to have our suspicions alive to the possible occurrence either of circumscribed peritonitis, or of inflammation of the cellular tissue connected with the womb or its appendages.

In considering the *treatment* of this affection, we must bear in mind the difference between the results likely to be obtained before suppuration has taken place and after it has occurred. In the former case, a few days will suffice for the complete removal of all traces of disease; in the latter, weeks or months will often issue in but a very incomplete recovery. Whether treated in its acute or in its chronic stage, indeed, our prognosis may almost always be favourable as far as the life of the patient is concerned. When the disease, however, is of long standing, it is idle to attempt any reply to inquiries as to the probable duration of the patient's illness, or as to the time that must elapse before the pelvic organs return to their previous state, and to the regular performance of their wonted functions.

It is not a heroic plan of treatment, however, which is necessary when we see the disease at its onset, in order to cut short its further progress. A dozen leeches applied to whichever iliac region is the seat of pain; a warm poultice frequently renewed, and continued for thirty-six or forty-eight hours, a gentle aperient, some mild febrifuge medicine, and opiates to subdue pain, and to insure for the patient quiet rest at night, with a generally mild and unstimulating diet, are the simple, and, as I believe, the fully sufficient means by which the symptoms may be combated. Should the pain and tenderness not be removed by the first depletion, half a dozen leeches ought to be reapplied within the next twenty-four hours; but the frequent abstraction of blood is undesirable. The tenderness and pain which sometimes remain even after blood has been drawn to as great an extent as seems expedient, and which are often accompanied by considerable fulness of the affected side, are generally much relieved, often altogether removed, by the application of an ointment composed of two drachms of extract of belladonna, and six drachms of mercurial ointment, which may be thickly spread on lint, covered with oiled silk, and renewed every twenty-four hours. The relief, too, is obtained quite independently of the production of any specific mercurial influence on the system. If, in addition to the pain at one or other side of the abdomen, there should be difficulty in micturition, or tenesmus, or bearing down, or much pelvic pain or discomfort, it is probable that a vaginal examination will discover the mischief not

to be limited to the uterine appendages, but to involve the cellular tissue between the uterus and rectum, or between that organ and the bladder. In this case the application of four or six leeches to the uterus itself, by means of the speculum, will often afford an amount of relief that would be vainly sought for by the employment of four times their number if put on externally.

After all general febrile disturbance has subsided, and when nothing remains but a little local pain and tenderness, and perhaps some stiffness in the limb of the affected side, the application of a small blister, so as scarcely to vesicate, will often yield great relief, and this may be repeated two or three times, at intervals of as many days; its situation being varied just sufficiently to obviate the production of a troublesome sore. In many instances, however, if the case is seen quite at the outset, the symptoms disappear at once after a single application of leeches, and our chief difficulty then consists in persuading our patient to submit to those restrictions, and to observe those precautions which may seem to her to be dictated by our over-carefulness rather than by the actual necessities of her case. The avoidance of fluctuations of temperature, and of premature exertion of any kind, is indeed a matter of the greatest possible importance during the whole period of convalescence. So long as there are any considerable remains of pain, or as there is much tenderness on pressure in the iliac region, or over the pubes, it is unsafe for the patient to leave her bed, or even to move much from the recumbent posture; for there is risk, not simply of a very slight cause producing an exacerbation of the inflammation at its original seat, but also, as has been already explained, of mischief attacking the opposite side. Now and then, too, phlegmasia dolens has come on under my observation in cases where all active symptoms had already passed away, and where no special cause could be assigned for its occurrence. Even after complete recovery, the return of menstruation, or even of the period at which the menses ought to occur, calls for fresh solicitude, and any recurrence of pain, or even of uneasiness, any rekindling of febrile disturbance must be at once met by a repetition of local bleeding, and a renewal of former precautions and former treatment.

Unfortunately, in the great majority of cases, the evil, before it attracts attention, or receives appropriate treatment, has advanced further, and there is not merely a general sense of fulness at one side of the abdomen where the patient complains of pain, but a distinct tumour is already perceptible on external or internal examination. In these circumstances a speedy recovery can no longer be anticipated, but something may still be done to prevent any abundant formation of matter, to favour the absorption of the sero-purulent fluid already poured out, and to bring about the resolution of the tumour. The application of leeches is as appropriate here as in the earlier stages of the complaint, though, as it will probably be expedient to repeat them several times, it is seldom desirable to apply

more than six or eight at once. The warmth of the poultice is as grateful as at the outset of the affection, while, if the pain is very severe, the use of laudanum instead of water in mixing it will render it a very powerful local sedative, and its employment need not at all interfere with the use of the belladonna and mercurial ointment of which I spoke just now. I am not, however, accustomed in cases which have already advanced to the formation of a definite tumour, to rely exclusively on the effects of depletion and of general hygienic measures, but usually give small doses of some mild mercurial preparation, and continue their use sufficiently long to produce slight soreness of the mouth. A five grain pill, composed of equal parts of Dover's powder, and gray powder, given twice a day, usually has this effect in a week or ten days, and thus employed it seems to have the twofold result of preventing the extension of mischief on the one hand, and of promoting the absorption of the products of inflammation on the other. If the symptoms are urgent, I sometimes give the pill every six hours, but am not in the practice of giving calomel, nor even of persevering with the more frequent doses of gray powder if they should appear to irritate the bowels. As in most local inflammations, the night is usually the time of the greatest suffering, and an anodyne is generally needed towards evening; camphor in five grain doses being a very useful addition to any opiate which may be employed.

It is seldom that any rigorously antiphlogistic plan is suitable in this stage of the affection. Good beef-tea is indispensable, wine and tonics are generally needed; I think I may say always, when any even vague sense of fluctuation shows that matter in some considerable quantity is already present. A disposition to irritability of the bowels frequently contraindicates the use of quinine, and I therefore generally prefer the liquor cinchonæ, as being free from any of those objections which may be alleged against most other preparations of bark.

Slowly, almost imperceptibly, in proportion as the symptoms of constitutional disorder abate, the swelling itself, in some instances, diminishes in size, till at length an indistinct thickening is all that is left behind. But still this is a more favourable issue than we often meet with, or than we can ever venture to count upon, where a distinct tumour has formed. Often, though some abatement of the general symptoms takes place, the tumour enlarges, becomes tenser, and feels more elastic; a vague sense of deep-seated fluctuation is communicated to the finger, and may continue for weeks without growing more perceptible, till at length the abscess begins to discharge itself through one or other of the channels which were described in the last Lecture. The question now naturally suggests itself, whether, when suppuration has once occurred, we cannot expedite the escape of the matter, and thereby hasten the recovery of the patient? I believe that, as a general rule, it is safer to leave the emptying of the abscess entirely to nature, rather than to attempt

the evacuation of its contents by puncture; those cases always excepted in which the inflammation has attacked the cellular tissue external to the peritoneum, and where the abscess consequently points in the abdominal wall. In those cases the very tardy advance of the matter towards the surface may sometimes be accelerated by the application of a blister; for even here it is not expedient to make an incision so long as any considerable thickness of parts intervenes. In the far more frequent instances in which the seat of the mischief is within the pelvic cavity, the pus tends to escape either per vaginam or per rectum, and the attempt to anticipate by puncture the exact course which it may take is very frequently unsuccessful, and not always safe. The natural relation of parts is much changed by the effects of the inflammation; the swelling and tension of the vaginal walls extend far beyond the limits which circumscribe any actual collection of matter, and it is very likely that the trocar may be merely thrust through hardened textures, and, though passing very near to the collection of matter, may entirely fail to enter it. The extent and relations of the tumour can be most accurately determined, and puncture can consequently be most safely performed, when the cellular tissue between the vagina and rectum has been the seat of the inflammation; and a Pouteau's trocar introduced by the vagina will generally reach the matter, if the indications of its presence have been distinct. In one case, where inflammation of the cellular tissue between the uterus and bladder had issued in suppuration, the escape of ℥x of pus on puncture being made proved the expediency of the interference. In a few days, however, the vaginal tumour had reacquired almost its former size; the puncture was repeated, but no pus followed, for the trocar had at once entered the bladder through the firm and œdematous vaginal wall; an accident which fortunately was not followed by any bad consequences. The previous introduction of a silver catheter into the bladder in the one case, and examination made simultaneously with one finger in the rectum and the other in the vagina in the other case, will suffice to prevent a mistake which otherwise is more easily committed than might be supposed possible.

The management of the patient after the discharge of the contents of the abscess calls for no special rules. The chief difference, indeed, between those cases in which the discharge of pus takes place, and those in which it is either not secreted or is absorbed, consists in the greater degree of debility to which, in the former circumstances, the patient is reduced; a debility which is often extreme, if the suppuration has been extensive, or if the discharge of pus is of long continuance. Even then, however, and in spite of well marked hectic fever, and of sweats, alternating with colliquative diarrhœa, by which, and by the exhaustion produced by continued suffering, life seems sometimes to be seriously threatened, the disease terminated fatally only in two out of the fifty-two patients on whom these remarks are founded, and death, in one of these instances, was

due, not to the affection of the cellular tissue between the uterus and rectum, but to the rupture into the abdominal cavity of a large intra-peritoneal abscess.

With reference to the thickening left behind, after the cessation of all active inflammation, I do not think that we can do much more than trust to time for its gradual, often, indeed, for its partial removal. Blisters, indeed, occasionally applied in the iliac region, do something to relieve the pain and uncomfortable sensations which may long outlast the other symptoms; and they may, perhaps, somewhat accelerate the removal of thickening in the substance of the broad ligament. I have little faith, however, in the external application of iodine, or in its introduction, as an ointment, into the vagina; nor do I think that the subjecting a patient to a course of mercurial remedies, or of preparations of iodine is likely to effect any local good at all equivalent to the impairment of the constitutional powers, which such remedies can scarcely fail to produce.

Within the past few years, attention has been directed, chiefly by French writers, to cases in which *tumours have been formed* in the immediate vicinity of the uterus *by the effusion of blood* either into the cellular tissue around the womb, or into the peritoneal cavity in the *cul-de-sac* between the uterus and rectum.[1] In both instances,

[1] Cases of pelvic tumour, giving issue, not to matter, but to more or less altered blood, are scattered here and there through our medical records, and some of them may be found referred to by M. Huguier, in a lecture on uterine hæmatocele, which he gave before the Surgical Society of Paris, on May 28, 1851. As early as 1843, M. Velpeau, at p. 125 of his *Recherches sur les Cavités Closes*, gave an account of one instance in which he evacuated the sanguineous contents of one of these swellings, and afterwards injected a solution of iodine into its cavity. He seems, too, to have entertained a correct idea as to the nature of the affection; but the mistake into which M. Malgaigne fell, in the year 1850, who, thinking to enucleate a fibrous tumour of the posterior uterine wall, opened one of these collections of blood behind the womb (an operation which was followed by fatal hemorrhage), shows that the subject, even down to this time, had attracted very little attention.

In the year 1851, M. Nélaton gave some lectures on the subject of *uterine*, or, as he termed it, from its usual situation, *retro-uterine hæmatocele*, which were published in the *Gazette des Hôpitaux*, Dec. 11 and 13, 1851. In them, he refers to 15 cases, namely, 6 of his own, 2 reported by Bourdon as occurring in the practice of M. Récamier, 1 reported by M. Laugier in vol. v. of the *Dictionnaire* en 30 volumes, 2 cases which Nélaton saw in the practice of M. Beau, 1, Malgaigne's unfortunate case, 1 of M. Dufraigne, 1 of M. Latis, 1 of M. Huguier. He has since recorded another case in the *Moniteur des Hôpitaux*, August 23, 1856, and has made additional remarks on the affection in the *Gazette des Hôpitaux*, 1855, No. 23, in which he advocates an expectant mode of treatment. Other cases are recorded by M. Gallard, *Union Médicale*, 1855, and *Gazette Hebdomadaire*, Oct. 9, 1857; Laborderie, *Gazette des Hôpitaux*, 1854, No. 149; Bernutz, *Archives de Médecine*, June, 1848, p. 133; Piogey, *Bull. de la Société Anatomique*, 1850, p. 91; Robert, *Bull. de la Société de Chirurgie*, May 22, 1851, p. 136, and *Gazette des Hôpitaux*, May 1, 1855, 204; Follin, *Gazette des Hôpitaux*, 1855, June 5, p. 260; Laborderie, *ibid.*, 1854, No. 149; Monod, *Bull. de la Société de Chirurgie*, June 4, 1851, p. 154; and Marotte, *ibid.*, p. 152; and Engelhard, *Archives de Médecine*, June, 1857. There is, besides, much valuable information to be gathered from the discussion on the subject which took place in the *Société de Chirurgie*, May 14, 21, and June 4, 1851, and which is reported at pp. 132, 154, and 151 of the *Bulletin*, and in the inaugural thesis of M. Viguès, *Des Tumeurs Sanguines de l'Excavation Pelvienne chèz la Femme*, 4to., Paris, 1850, with which, however, I am acquainted only through an abstract in Schmidt's *Jahrbücher*. Besides these communications, all of

the hemorrhage is generally associated with some previous disorder of the menstrual function, often with its temporary suppression; the congestion of the sexual organs relieving itself by a profuse outpouring of blood, for which effusions the name of *uterine*, *retro-uterine*, or *peri-uterine hæmatocele* has been proposed.

When the hemorrhage takes place into the peritoneal cavity, its source has probably in the first instance been the living membrane of the uterus itself and the Fallopian tubes, whence escaping at their fimbriated extremities it collects in the *cul-de-sac* behind the uterus. In one post-mortem examination, this process was seen in actual course of occurrence, both tubes being distended with blood, and a partially decolorized coagulum hanging from the extremity of one of them. The blood thus poured out speedily excites inflammation, and adhesions forming between the adjacent coils of intestines, shut it out from the cavity of the abdomen. It here undergoes within the artificial cyst that incloses it the same changes as are incidental to sanguineous effusions elsewhere. Sometimes the blood is altogether removed by absorption, and adhesions between the uterus and adjacent viscera remain the only evidence of the bygone mischief. At other times, an aperture of communication forms with the rectum, or more rarely with the vagina, and the decomposed blood is expelled, the patient either altogether recovering or the sac remaining a pus-secreting surface, and pelvic abscess succeeding to the hæmatocele, as in a case which came under my own observation. In cases which have a fatal issue, this is due either to the recurrence of hemorrhage exhausting the patient or more commonly to the irritation extending beyond its original seat, and at length involving the whole of the peritoneum in a general inflammation. In two out of eight post-mortem examinations of which I have found a record, the hemorrhage seemed to have been furnished entirely from the uterus and Fallopian tubes; in one, the vessels of the ovaries had given way under a more than usually intense congestion of those organs. In one, it appeared to have had a twofold source, being derived in part from the tubes, in part from the vessels of the broad ligament, into the tissues of which blood was effused. In two of the remaining four cases, the blood was poured out behind the uterus, but beneath the peritoneum; in one, beneath the peritoneum in the iliac fossa, and in the fourth, between the folds of the broad ligament.[1]

which are of a directly practical character, one of a theoretical kind was addressed by M. Laugier to the Académie des Sciences, and is published at p. 455 of vol. xl. of the *Comptes Rendus*. Its object is to connect the occurrence of these effusions with the escape of the ovule at or about the menstrual period. In Germany, but few cases have hitherto been recorded; by Crédé, *Monatschrift f. Geburtskund*, vol. ix. p. 1; Breslau, *ibid.*, p. 455; and Hirtzfelder, *ibid.*, vol. x. p. 312; and in our own country, Dr. Tilt is the only writer who has noticed it. The second edition of his work on *Diseases of Women*, p. 261, contains the particulars of one case which came under his own notice, and a detailed account of most of the observations of French writers on the subject.

[1] The post-mortem observations are those of MM. Malgaigne, Monod, Marotte, Robert, Follin, Bernutz, Piogey, and Engelhard.

We learn, then, from these observations the existence of a previously unknown hazard attendant on disorders of the sexual system in women: that not merely may intense congestion lead to profuse and dangerous floodings, or functional disturbance issue in inflammation of parts in the vicinity of the uterus, but also that vessels may give way and hemorrhage take place inwardly in situations where it is hard to discover, and still harder to suppress. As might be expected, the accident is one which takes place only during the period of sexual vigour, it having occurred in twenty-one women at the following ages:—

		Under	20	in	2
Between	20	and	25	"	2
"	25	"	30	"	7
"	30	"	35	"	5
"	35	"	40	"	4
		At	40	"	1
					21

Of the above 21 patients, 15 were married, 3 were single, and the civil state of the other 3 is not mentioned.

The affection has scarcely been observed often enough or with sufficient minuteness to allow of its features being sketched with complete exactness, though in all the cases of it there is a sort of general family likeness which I think would enable the attentive observer usually to recognize it, or which at least would arouse his suspicions as to its possible character. Of the four cases that came under my own notice, one was that of a young unmarried woman, aged twenty-two, who, having long suffered from attacks of pain of a paroxysmal character in the left iliac region, was surprised at the age of nineteen by a profuse discharge of a dirty reddish brown colour from the vagina, which continued in varying quantity for many weeks, and was then succeeded by a puriform discharge occurring in gushes, which continued down to the time of her coming under my care. A tumour in the iliac region, and another felt behind the uterus fixing that organ in its place, were the evidences of some bygone inflammation; of an old pelvic abscess, in short, the origin of which in an effusion of blood was rather inferred from the patient's previous history than actually demonstrated. Puncture of the abscess and the injection of a solution of iodine into its cavity were followed by its complete cure. In the other cases the accident was of recent occurrence, and its symptoms were sufficiently characteristic to remove all doubts as to its nature. The patients were married women of the respective ages of 33, 24, and 25 years. In the first, exertion on the second day after miscarriage at the sixth week was followed by great increase of the sanguineous discharge, which continued for twelve weeks. At the end of this time a vaginal examination detected a tumour behind the uterus of the size

of an apple. On being punctured it gave issue to a reddish-brown discharge, the continuance of which for three weeks was followed by the complete disappearance of the swelling. In the second patient, who for five years had lived in sterile marriage, the symptoms gradually developed themselves during the persistence for two months of a discharge supposed to be menstrual. Here, too, a tumour behind the womb gave issue when punctured to a black offensive discharge, which evidently consisted of decomposed blood, and the patient having surmounted an attack of peritonitis perfectly recovered. The third case so well illustrates the symptoms and the dangers of the affection, that it seems to me deserving of relation somewhat in detail.

A tall, stout, and tolerably healthy-looking woman, twenty-five years old, who had been married for seven years, had been pregnant four times, and had given birth to three living children, of whom the youngest was twelve months old, was admitted into St. Bartholomew's Hospital on February 22d, 1851. Her general health had been good, her labours had been natural, and after all of them she had menstruated regularly during the whole period of lactation. After her third labour matters went on as usual until Christmas, when she menstruated naturally, but ever since that time a sanguineous discharge, neither very profuse nor intermingled with coagula, had been constantly present. For a month she had had pain of a bearing-down character, aggravated by exertion, but not notably relieved by rest, nor by any particular position; and she had also for the same time suffered from occasional fainting fits. Micturition was frequent and painful, and her urine was reported to be both scanty and high-coloured. A medical man whom she had consulted told her that "her womb was down."

The abdomen was large and somewhat tense, its enlargement being due to the presence of a tumour, the surface of which was slightly uneven, occupying the whole of the left side, extending three inches above the umbilicus, reaching about two inches across the mesial line, though gradually sloping downwards, so that on the right side its upper margin was an inch and a half below the umbilicus. The tumour was firm, non-fluctuating, very tender to the touch, especially in the left iliac region.

The finger on being introduced into the vagina came almost immediately on a somewhat firm, elastic tumour, of an oval shape, of about the thickness of the wrist, and which had pushed before it the posterior vaginal wall. This tumour seemed to pass over into the substance of the uterus about half an inch behind its orifice, the whole organ being so misplaced that the os uteri was felt lying horizontally immediately behind the symphysis pubis. The finger passed up in the front and right side of the pelvis without encountering any resistance; but at the left side and posterior part of the pelvis a firm tumour was felt apparently continuous with that imme-

diately behind the uterus. The vessels of the tumour pulsated very forcibly.

About three ounces of a bloody fluid were drawn off on the tumour being punctured with a grooved needle through the vagina. The microscope discovered nothing but blood corpuscles in the fluid, and with the view of emptying the tumour if possible, and of thereby relieving the painful pressure on the rectum, which occasioned much distress, a Pouteau's trocar and canula were introduced, but only about four ounces of fluid of the same character as before were let out. The tumour was not thereby much diminished in size, nor was the patient's discomfort much alleviated. On February 27th, no fresh interference having been resorted to, she was seized with peritonitis, during the course of which there was manifest increase of the tumour, which extended more towards the right side of her abdomen. By the 3d of March all active symptoms were subdued, and on that day the patient passed two copious evacuations, which were perfectly black, and apparently consisted entirely of altered blood. The same afternoon, too, she experienced a sensation as of something giving way internally, and this was immediately followed by an abundant gush from the vagina of very fetid fluid, resembling coffee-grounds in appearance. This fluid flowed at first very abundantly, afterwards more scantily till morning, when it ceased, though another gush of it took place on the following day, and afterwards recurred occasionally for several days, acquiring by degrees a lighter colour, and becoming at last a dirty sero-purulent matter. Very slowly the patient's general health improved, while at the same time her abdomen diminished in size, and having measured forty-six inches on her admission had shrunk to forty inches on March 24th. The tumour in the left hypogastric region at the same time manifestly diminished in size and became more mesial in its position; and on April 5th the uterus had nearly regained its natural situation; there was no longer any distinct tumour behind it, but a hard, semicartilaginous thickening, ill-defined as to its extent and relations. On April 17th all discharge from the vagina finally ceased, and on May 5th all trace of abdominal tumour had completely disappeared, the position of the uterus was quite natural, the thickening behind it was much lessened. A year afterwards I again saw the woman; she was in perfect health, menstruating regularly; there was no trace of abdominal tumour, the uterus was perfectly movable, and there was scarcely any thickening to be felt behind it, or to its left side.

In its main features this case corresponds very closely with the description of uterine hæmatocele given by M. Nélaton and others. Though some form of disorder of the menstrual flux usually precedes the attack, the suppression of that discharge does not seem to be so constant as might on theoretical grounds have been anticipated; for sometimes irregularity has been observed both in its return and in the quantity of blood lost; at other times actual menorrhagia, and at others again a flow of blood, not alarming in its quantity, but at

length causing anxiety by its continuance.[1] In most cases, too, even though the menses had been previously suppressed, a somewhat profuse flow of blood, sometimes for a few days, sometimes for a few weeks, precedes the actual occurrence of the internal hemorrhage; but the development of the acute symptoms generally follows a temporary diminution or cessation of the sanguineous discharge. The acute symptoms scarcely ever appear till after the sanguineous discharge has either ceased completely, or has become much diminished in quantity. The symptoms are those of general febrile disturbance, seldom, however, very severe, accompanied by abdominal pain, and usually by enlargement of the abdomen. Even of their own accord, these febrile symptoms usually subside, and the pain also diminishes; a sense of weight in the pelvis, bearing down, difficult micturition, and still more difficult defecation remaining behind, and leading by the distress which they occasion to a vaginal examination, and to the discovery of the pelvic tumour.

When matters have reached this stage, the subsequent progress of the case seems to depend on circumstances. Puncture of the tumour may be followed by the complete evacuation of its contents, and the rapid recovery of the patient; or an expectant mode of treatment may be succeeded by the slow absorption of the blood, and by gradual convalescence. But events may follow a different course, and one far less auspicious; peritonitis may come on as the result perhaps of some fresh effusion of blood, or in the course of nature's efforts to eliminate it; and this peritonitis occurring in a patient already weakened by the hemorrhages may prove fatal. Or, after more or less suffering, the blood may find a passage by the bowel, or by the vagina, or as in the case just related, by both at once; and with its discharge the swelling may disappear, and the patient eventually regain perfect health; her whole illness having extended over a period of from two months to six or seven.

There are *four conditions* with which this *uterine hæmatocele may be confounded;* viz., extra-uterine pregnancy, retroversion of the pregnant uterus, inflammation of the cellular tissue between the uterus and rectum, and ovarian tumour; and the points of similarity between each of these are quite sufficient to lead very readily into error. The suppression of the menses, the abdominal or pelvic discomfort, and the sense of bearing down backwards, are symptoms common to effusion of blood behind the uterus, and to an extra-uterine fœtation between the second and fourth months; while the general contour of the tumour is very similar in the two cases, and there is the same

[1] In 13 out of 26 cases, suppression of the menses, or the irregularity of their return, which was postponed beyond its proper time, preceded the development of the symptoms of the effusion; in 6, on the contrary, there was menorrhagia, or a constant sanguineous flow, and in one instance abortion was followed for two months by constant, though not profuse hemorrhage. In 6 of the cases, or in rather less than a fourth, pain preceded the acute symptoms, but neither suppression of the menses nor any other form of menstrual disorder.

remarkable pulsation of the vessels distributed to it in both. The attacks of pain in extra-uterine fœtation are, however, usually more intense and more paroxysmal, while the discomfort in the intervals is less; the sanguineous discharge is absent, and the uterus, if examined with the sound, is ascertained to be increased in size; and even without it the condition of the os uteri and portio vaginalis of the cervix, with the puffy lips, the closed orifice, and the swollen tissue differs widely from the completely undeveloped state of those parts in cases of hemorrhage about the womb.

The effusion, when considerable, may cause, as it did in the case which I have related, complete retroversion of the womb, a condition which, when associated as it is sometimes with suppression of the menses for two or three months, may raise the suspicion of pregnancy, and lead to the tumour being taken for the fundus of the enlarged and misplaced uterus. Professor Crédé, of Berlin, relates an instance in which these very circumstances led him for a moment into error, and in which he endeavoured vainly to replace what he supposed to be the pregnant and retroverted womb. Further observation soon led him right, and the same considerations as rectified his diagnosis may keep us from error. The cervix and os uteri presented none of the changes of pregnancy; the bladder was not affected; and the uterine sound, which entered readily in the natural direction, could not be turned round with its concavity backwards, nor be made to enter the tumour, intimately though it seemed connected with the womb.

The characters of the tumour in cases of inflammation of the uterine cellular tissue very closely resemble those of uterine hæmatocele, and the history and symptoms present a very near analogy in the two affections. There are, however, some points of difference between them which are generally sufficiently marked to preserve the attentive observer from error. Pelvic abscess is very generally the consequence of delivery or of abortion, while it is scarcely ever associated with any other form of menstrual disorder than its *sudden* suppression; the inflammatory symptoms developing themselves directly out of that accident. Uterine hæmatocele, on the contrary, is seldom the *immediate* consequence of a single suppression of menstruation; it is not unfrequently preceded by menorrhagia, and is often accompanied, at any rate for a time, by a copious sanguineous discharge, a symptom which never attends upon inflammation of the cellular tissue in the vicinity of the uterus. Moreover, the tumour consequent on inflammation is at first very firm and resistant, and becomes soft only by degrees with the advance of suppuration. The tumour of uterine hæmatocele, on the contrary, is soft at first, and becomes more resistant in time, as the fluid elements of the blood are partially removed, while at no period are there the same thickening and induration about it which are so remarkable in that part of the vaginal wall adjacent to any collection of matter.

Ovarian cysts occupy, when small, the same situation as uterine

hæmatocele; they are not, however, so sudden in their occurrence, nor so rapid in their increase; while though their development is often associated with menstrual irregularity, they are not attended by any constant sanguineous discharge. The ovarian tumours, too, do not descend equally low into the recto-vaginal pouch, and consequently do not produce the same difficulty in defecation, while, further, they are not so intimately connected with the uterine wall, and the womb can usually, by means of the sound, be completely isolated from the adjacent swelling.

The number of instances of this affection hitherto observed is scarcely sufficient to enable us to determine accurately the degree of danger attaching to it, any more than the comparative frequency of the intra and extra-peritoneal variety of the hemorrhage. Including the four cases which came under my own observation, I can find some account, though often very meagre, of 41 instances of uterine hæmatocele, 33 of which terminated in recovery, 8 in death; or, in other words, the deaths were in the proportion of 19.5 per cent. of the total number of cases. In one of the fatal cases death took place from phthisis, and was therefore the indirect rather than the immediate result of the affection, twice it resulted from loss of blood, which, however, was in one of the instances due to the accidental wounding of a vessel of the cervix uteri, once it took place under the symptoms of pyæmia, and in the remaining four instances was produced by peritonitis of a rather chronic kind; the patient surviving a month in one case, forty-five days in another, four and a half months in the third, and seven and a half months in the last.

There can, I apprehend, be little doubt but that the real fatality of this affection is considerably less than would appear from our present imperfect data. On the one hand, some of the cases, such as that of M. Bernutz and of M. Piogey, have been reported as pathological rarities; and, on the other, many which have had a favourable issue have been unrecorded. Many, too, have unquestionably passed unrecognized; for the disposition to the spontaneous absorption of the effused blood, unless the quantity poured out has been enormous, seems to be very great, and menstrual disorder and abdominal pain have probably often passed away without a suspicion having arisen of their connection with hemorrhage around the uterus, or into the cavity of the peritoneum. Still, every allowance being made for the influence of these circumstances, uterine hæmatocele must, I imagine, be always regarded as an accident of a much graver kind than mere inflammation of the cellular tissue in the neighborhood of the uterus, or of its appendages.

In the *treatment* of this affection two different modes of procedure have been advocated, of which the one is the expectant plan; while early interference and complete evacuation of the sac are the principles of the other. The statistics of the two methods yield the following results:—

Treated on the expectant plan	14	Recovered	11	Died	3
" by puncture . .	27	"	22	"	5
	41		33		8

but from such slender data I should hesitate to draw any conclusion. I imagine, indeed, that neither plan can be regarded as absolutely the best, but that the special circumstances of each case must guide us. In three of my cases, that alone excepted in which the effusion had already become a chronic evil, the puncture was followed by peritoneal inflammation, which was once of great severity; and the existence of an opening in the vagina did not in that instance prevent the establishment of a communication with the bowels and the discharge of a large quantity of blood per anum. In some instances, too, the fibrin of the blood forms, by its coagulation, a thick layer within the sac, and prevents the escape of the fluid contents after puncture with the trocar; while the enlarging the opening with a bistouri seems to be free neither from the dangers of hemorrhage on the one side, nor from those of inflammation of the cyst on the other. The complete emptying of the cyst, its subsequent washing out with water, and the injection of a solution of iodine into it, as practised by M. Velpeau and advocated by M. Robert, appear to me hazardous proceedings, except when resorted to quite in the chronic state of the affection, when all disposition to hemorrhage has ceased, and the susceptibilities of the cyst wall have become blunted by the lapse of time.

In the earlier stages of the affection, absolute rest, local depletion, and the ministering to each symptom as it occurs, are the indications which we should endeavour to fulfil; while the presence of a tumour even of considerable dimensions, or even its increase to some extent after its first discovery, should not, I venture to think, lead us to puncture it, apart from some very serious ill, or suffering clearly attributable to it. In the event of puncture being obviously necessary, a Pouteau's trocar would appear to be the safest and most manageable instrument to employ, and was used in all of my cases. In none of these, however, it must be admitted, was the escape of the blood immediate; but I should imagine that the use of a curved trocar and canula of the thickness of one's finger, such as I have employed to puncture ovarian cysts, per vaginam, would obviate the inconvenience with less risk than would be incurred by the use of the knife. After puncture, the great hazard seems to be that of the supervention of inflammation, and my own experience leads me to regard this as very considerable, though it was controlled in each instance by active treatment.

Further experience may very possibly modify some of the views I have just now expressed, and may show that the balance inclines greatly in favour of very early interference in these cases. I may just add, however, that the opinions of M. Nélaton appear to lean

even more decidedly than at first they did towards the adoption of an expectant plan of treatment, and to leaving to nature alone the removal of the blood, even though poured out in great abundance.

LECTURE XXIII.

DISEASES OF PARTS CONNECTED WITH THE UTERUS—INFLAMMATION AND ITS RESULTS, AND KINDRED PROCESSES.

Inflammation of Uterine Appendages:—of the Ovaries.

Inflammation of the ovaries, imperfect state of our knowledge. Morbid appearances, frequency of inflammation of their peritoneal surface; inflammation of their substance rare. Changes produced by inflammation in the Graafian vesicles: suppuration, and ovarian abscess.

Symptoms of ovarian inflammation; of its acute form; of abscess of the ovary; cases in illustration.

Chronic inflammation of the ovary, its frequency probably overrated: neuralgic character of symptoms attributed to it. Occasional occurrence of subacute ovaritis; relation to it of the so-called displacement of the ovary.

Note on Hernia of the Ovary, and on Serous Cysts of Uterus.

Over and over again in the course of these Lectures I have had occasion to lament the incompleteness of our knowledge, the imperfection of the evidence on which we are compelled to act; and have been fain to content myself with hints and suggestions; with communicating mere fragments of information, where yet I felt that definite statements and positive rules were most needed.

Much of the subject of to-day's lecture can, I fear, be treated by me only after this imperfect fashion, unless I widely overstep the limits of my own knowledge, and assume a positive air where yet my convictions are far from settled. Some facts, indeed, are well known and universally admitted, such as the frequency of acute *ovarian inflammation* as a complication of puerperal peritonitis, its rarity in other circumstances; but the frequency, the symptoms, and the importance of the more chronic forms of inflammation of the ovaries, are questions which have received very discordant replies, and for whose final decision data appear to me to be still wanting.

The difficulties to which I have referred do not indeed arise from the rarity with which *morbid appearances* are discovered in the ovaries, but rather from the uncertainty which prevails as to their nature or as to their importance. In 21 out of 66 instances in which I examined the uterus and its appendages in the adult, the ovaries themselves, or parts immediately connected with them, presented changes more or less obviously due to inflammatory action. In 10 of the 21

cases the main evidence of inflammation consisted in traces of old peritonitis of the uterine appendages, and in 5 of the number there was no evidence of other or of more recent mischief. The amount of this peritonitis varied exceedingly. In some instances it was confined to one side, and its results were nothing more considerable than a thin and partial layer of false membrane on the surface of one or other ovary, and long, filamentous adhesions between the ovary and Fallopian tube. In other cases a complete web of false membrane enveloped the ovaries, thickened the broad ligaments, and by its contraction shortened the ovarian ligaments, thus drawing the ovaries much nearer than is natural to the sides of the uterus, while at the same time they and the Fallopian tubes were firmly and inextricably matted together. Now and then, too, the ovaries were not merely drawn nearer to the uterus, but their position was in other respects changed, they being tied down behind it; as in the following notes of the examination of the body of a woman who died at the age of thirty-seven, of chronic bronchitis and emphysema, and all of whose four labours were alleged by her husband to have been perfectly natural. The uterine appendages on either side were doubled back behind the uterus, and matted together in that situation by firm old adhesions, in the cellular tissue of which a good deal of firm granular fat was intermingled. The Fallopian tubes of either side were convoluted, dilated to the size of the little finger, by the presence in them of a thick red secretion, like a mixture of blood and mucus. Each was firmly adherent to its corresponding ovary, so that it was almost impossible to dissect them apart. Though twisted round as above described, they did not pass the mesial line, but wound about on either side of the uterus. On opening them they presented the appearance of a number of freely communicating sacculi, not unlike a section of the *Fucus Marinus*, and the right, which was the larger of the two, measured at its widest part, which was one inch from the uterus, just an inch and a line when laid open. This enlargement continued, though diminishing till about a quarter of an inch from the uterus, where it ceased; the short remainder of the tubes, though pervious, not being wider than natural. The walls of the tubes were very dense; their muscular structure remarkably distinct, and their lining membrane stout, tough, easily detached from the subjacent tissue, and presenting somewhat of a polished surface.

The left ovary was much atrophied, and was with difficulty distinguishable in the midst of the thickened cellular tissue and the fat which abounded on either side of the uterus and within the folds of the broad ligament. The right ovary was much larger than natural, though very little of its proper tissue was distinguishable. Its size, which was that of an unshelled walnut, was chiefly due to a cyst, lined by a smooth, polished membrane, and filled with thick, grumous blood, as well as containing some old coagulum, which required a little force for its detachment.

In other cases I have met with a less degree of the same condition

of the uterine appendages, and have found the ovary wasted, apparently as the result of its compression by the formation of false membrane around it, an occurrence to which must probably be attributed the sterility that frequently follows an attack of peritonitis, and the permanent suppression of the menses that occasionally, though less often, succeeds to the same cause.

More important than the changes produced by inflammation on the exterior of the ovary are those alterations which it causes in their substance, and especially in the Graafian vesicles. The mere substance of the ovaries does not, indeed, except in the puerperal state, often present appearances indicative of inflammation or of its results. The softening of their tissue, the infiltration with pus—which is sometimes poured out so suddenly and in such abundance as to produce rupture of the organs—or that sloughing of their tissue occasionally observed in the bodies of women who have died during epidemics of puerperal fever, are conditions which, to the best of my knowledge, are not met with in the unimpregnated state. Affections of the ovarian tissue, apart from the puerperal condition, are, I believe, almost always secondary and subordinate to those of the Graafian vesicles themselves. Thus, when the functions of the ovaries are no longer exercised, and ovules are not in course of production and maturation, we find the substance of the organs shrunken, dense, and frequently intersected by white lines of firm cellular tissue; and just in a similar way do we find it swollen, congested, and infiltrated, in conjunction with a turgid state of the Graafian vesicles, and with the presence of evidences of inflammation about their coats. In these circumstances indeed we may find the whole of the ovary considerably increased in size; but my own experience corresponds with that of Kiwisch, who says that it is extremely unusual for the organ in the unimpregnated condition to be enlarged by any inflammatory affection of the stroma to more than double its natural size.[1]

It is in the Graafian vesicles themselves that we find, as indeed might be anticipated, the most important results of inflammation; and such inflammation is of great moment, from the circumstance that in some instances it is probably the first step in the production of ovarian dropsy. In the case of women who have died during or soon after menstruation, it is, as you know, very usual to find a state of general turgescence of one or other ovary, with great prominence of some of the Graafian vesicles, and minute injection of their external membrane, while a large clot occupies the cavity of that one of the vesicles from which the ovule has escaped. Such appearances of the ovary are physiological, and pass away with the subsidence of the periodical congestion that produced them, the clot itself being gradually removed, and the contracted vesicle disappearing by degrees. Appearances of a somewhat similar kind are met with, however, independent of menstruation, and in circumstances that point

[1] *Op. cit.*, vol. ii. second edition, p. 47.

directly to inflammation as their cause. Thus, in the case of a prostitute, twenty years of age, who was suffering from severe gonorrhœa at the time of her death from pleuro-pneumonia, the whole interior of the cavity of the uterus was covered by a copious puriform secretion, the surface beneath being of a bright red, just like red velvet. This condition ceased abruptly where the plicated structure of the cervix uteri began, but was continued along the whole tract of the Fallopian tubes. They were pervious at their uterine ends, obliterated at their fimbriated extremities, filled with thick pus, which had distended the fimbriæ into little pouches, while their lining membrane was of a finely flocculent appearance, and of the most vivid red. The ovaries were rather large; they were somewhat congested, the Graafian vesicles were both numerous and turgid, and their membrane presented a most beautiful appearance, being traversed by very minute vessels, and looking as if the finest vermilion injection had been thrown into them.

I do not know exactly what the subsequent stage of the disease would have been if the patient's life had not been cut short by the pneumonia. Probably, however, the contents of the vesicles would next have been obviously changed, and in all likelihood would have eventually become purulent. Such at least were the contents of many of the Graafian vesicles in the right ovary of a girl who died of very acute peritonitis; and in whom there was found a cyst distended with pus, of the size of an orange, connected with that organ, while many of the Graafian vesicles contained little drops of pus, though there was no suppuration of its general tissue, and the other ovary was quite healthy.

The large cyst in this case had probably existed for a long time before the commencement of the patient's fatal illness, and the supervention of inflammation in it was very likely the point of departure of all the subsequent mischief. As we shall have occasion hereafter to observe, the occurrence of inflammation and suppuration in an ovarian cyst is an accident by no means unusual, and one which sometimes takes place without giving rise to symptoms so severe as might have been anticipated. Such cases, however, are perfectly distinct from those of primary ovarian abscess, which latter are also, I believe, of much greater rarity. For the most part the increase of such abscesses generally goes on rather slowly, and their development is usually attended with symptoms of far more serious constitutional disturbance than accompanies the growth of an ordinary ovarian cyst; though after a time they not seldom become stationary, and remain so even for years. Thus, in the case of a patient who died twelve years after her first attack of inflammation of the uterine appendages, and four years after her second and last seizure of a similar kind, the right ovary was beset with numerous yellow dots of a matter which looked like softened cheese, probably the result of some change in the contents of the Graafian vesicles, while the left ovary, to which the corresponding tube was firmly adherent,

formed an abscess the size of an orange and full of pus. The cavity of this abscess was sinuous, as if several collections of pus had eventually been fused by the removal of their septa into one, and at its lower part there was a mass of cretaceous matter of the size of a chestnut.

There are, besides, some appearances of no great rarity presented by the Graafian vesicles, which have been supposed, and with considerable probability, to be the results of a chronic, or, at any rate, of a bygone inflammation. Such is the loss of transparency of the coats of the vesicles, and especially their entire conversion into firm, whitish, or yellowish-white, shot-like bodies, of the size of a small pea, and of a homogeneous, somewhat friable, texture. In some instances the stroma of the ovaries has appeared unaltered around these bodies, but at other times I have found it also the seat of a yellow matter like fibrin, either infiltrated into the centre of the organ, or deposited in striæ which intersected its tissue. This condition, too, has always been associated with considerable thickening of the ovarian capsule, and with a dead white colour of its surface; and the ovary generally has been small and shrunken, and contained few Graafian vesicles, and sometimes none but those which had been the subject of this change. It is not, however, as might be supposed, a result of mere wasting from the advance of age and the cessation of the generative function, for I have met with this state in the body of a woman who died at the age of twenty-five, and in whose ovaries there were not merely other healthy Graafian vesicles, but also in one a large menstrual clot, and other evidences of recent menstruation.

Acute inflammation of the substance of the unimpregnated ovary is of such rare occurrence that no case has come under my own care, and but one has presented itself to my observation. To that case I have already referred, as affording an instance of suppuration in the Graafian follicles themselves, but the cause of death was the supervention of general peritonitis.

The patient's history afforded no clue to the cause of her illness, for she was a young unmarried woman, eighteen years old, living in comfort as a domestic servant, and never having had any disorder of her catamenia, or any uterine ailment. Her illness had come on spontaneously four or five days before her admission into the hospital, and not at a menstrual period, with pain in the back and abdomen, fever and languor, for which, however, no treatment was adopted before she entered the hospital. Her symptoms were just those of general peritonitis; a dry skin, a small pulse of 120, urgent thirst, and constant sickness, great headache, a full, tense, and tender abdomen, and much pain in the abdomen and back. Her condition did not seem to admit of active treatment, and the next day the pulse had risen to 160, the sickness was incessant, the matter vomited being of a dark greenish colour; the abdomen was more tense, its tenderness undiminished, but the pain now recurred in

paroxysms, between which were intervals of comparative ease. In eighteen hours more she died: about forty hours from her admission into the hospital.

There was universal peritonitis; two pints of purulent fluid were present in the abdominal cavity; and inflammation had extended to the diaphragmatic pleura. The uterus and the left ovary were perfectly healthy. Connected with the right ovary was a cyst filled with pus, which reached as high as the brim of the pelvis, and pus coated the outer surface of the ovary as well as occupied the Graafian vesicles.

So rapid a course of the disease, and so serious a termination of it, are of great rarity. Inflammation commencing about the uterine appendages on either side seldom extends beyond the peritoneum in the immediate vicinity of the uterus; and even when the substance of the ovary is affected, and inflammation ends in suppuration, it is for the most part from a slow and wasting illness that the patient suffers; the *abscess* attaining a very large size, and possibly even persisting for years. Such at least is the experience of Kiwisch,[1] and my own more limited observation leads me to the same opinion. He notices the disposition of the symptoms to come to a standstill, so that sometimes the patient suffers chiefly from the mechanical inconvenience of the tumour, while in other instances the arrest of the symptoms is of a more imperfect kind: the patient continues to lose flesh; occasional febrile attacks come on, till at length a condition of hectic manifests itself, indicative in many instances of decomposition of the contents of the abscess, and death takes place either before or soon after it has discharged itself. All of these occurrences have come under my observation in cases of ovarian cysts in which inflammation has supervened, converting their contents into purulent matter; but I have only once met with an instance in which there was reason to believe that the tumour had been from the commencement an abscess, and had not originated in the inflammation of the cyst wall of a dropsical ovarium. In this instance the patient's illness commenced with suppression of the menses five months after marriage, she being at that time twenty-six years old. The suppression of her menses was followed by pain in the right side of the abdomen, about the situation of the crista ilii, but extending to the opposite side, aggravated by motion or exertion, and confining her by its severity, and by the general constitutional disorder which accompanied it, almost constantly to bed during the six months which preceded her admission into the hospital. Very soon after the commencement of her illness a tumour appeared in the right iliac region, which was said by her medical attendant to

[1] Kiwisch, *op. cit.*, vol. ii. p. 67, mentions having seen an abscess of the ovary which contained sixteen pints of pus. I have seen thirty-five pints of pure pus evacuated from an ovarian cyst; but this was in a case of dropsy, in which inflammation of the cyst wall had supervened, an accident to which further reference will be made in another lecture.

be an abscess. A month after the swelling was first perceived a discharge of pus took place from the urethra, which continued at intervals for some weeks, though without any marked change in the swelling. The discharge then ceased for a time, but at the end of three months it again recurred, and continued to take place occasionally until the patient came under my care, though, in spite of this, the tumour had gone on slowly increasing in size.

On her admission, the patient looked very ill; her countenance was anxious, her pulse frequent, her tongue red at the tip and edges, thickly covered with aphthæ. Her abdomen measured twenty-eight inches in circumference at the umbilicus, its enlargement being due to a pyriform tumour in the mesial line, which occupied the hypogastric, umbilical, and lower parts of the epigastric regions, and extended laterally to the lumbar and lower part of the hypochondriac regions. The tumour yielded a distinct sense of fluctuation, and was very tender on pressure, especially in the hypogastric region. The uterus was low down, and carried forwards nearer than natural to the anterior pelvic wall. It did not seem to be altered or enlarged, neither was it fixed in the pelvis, nor was there any thickening of the vaginal walls. The movements of the organ were, however, impeded by some tumour, which, though not dipping down into the pelvic cavity, nor presenting any distinct outline, was yet to be felt, as offering a general resistance on pressure being made in any direction against the roof of the vagina.

Three weeks after the patient's admission, pus began to be discharged from the bowel, and, in the course of a little more than a fortnight, under the continuance of these discharges, the tumour almost entirely disappeared, though much pain continued to be felt in the right iliac region, and a little pus occasionally re-collected in the sac of the abscess, and was from time to time discharged per rectum. The progress of her recovery was retarded by an attack of phlegmasia dolens of the left leg; but about two months after her reception into the hospital, she was discharged perfectly well, and no trace of the tumour was to be detected anywhere.

In this case, the suddenness of the attack, the acute character of the symptoms which attended its onset, and the rapid formation of the tumour, are alike incompatible with the supposition that the case was one of dropsy of the ovary. On the other hand, the situation of the swelling in the abdomen, the mobility of the uterus, and the absence of thickening by the side of the womb, or at the roof of the vagina, clearly show that the case was not one of pelvic abscess, or of inflammation of the cellular tissue within the folds of the broad ligament. We thus arrive at the conclusion that the matter was secreted from an abscess in the ovary, due to inflammation excited, in all probability, by the sudden suppression of the menses, which marked the commencement of the patient's illness.

I do not know that practically there is very much to gather from the details of a case such as the preceding beyond the knowledge of

the fact that acute ovaritis, ending in suppuration, may come on without apparent cause, and that the tumour thus formed may acquire a great size, and may present all the characters of a dropsical ovary. As far as treatment is concerned, it would, I think, in the case last related have been the wiser course to have punctured the tumour and have evacuated its contents soon after the patient's admission.

It is not from the observation of cases such as have hitherto been related, and which are confessedly as rare in their occurrence as they are formidable in their character, that has arisen the general impression of the importance and the frequency of ovarian inflammation. The *ovaritis* which is chiefly dwelt on by medical writers is said for the most part to be either *subacute* or *chronic* in its character. It is an affection supposed to be capable of lasting for many years without leading to any grave alteration of structure, though occasioning much functional disorder, and producing much local suffering. Disturbance of menstruation of various kinds, sterility, and pain in the abdomen, more especially pain referred to one or other iliac region, are the symptoms commonly assigned to this chronic ovaritis: and, indeed, a very large proportion of the ailments that have been referred by some observers to inflammation of the cervix uteri, and ulceration of its orifice, have been attributed by others equally confidently to chronic inflammation of the ovary.

My own impression is that a larger share has been assigned to chronic inflammation in the production of these symptoms than can be proved to be really due to it. In no class of ailments is pain so incorrect an index to the nature and importance of the morbid process which gives rise to it as in the disorders of the sexual system of women. On the one hand, diseases of the most formidable character sometimes run their course without the production of any suffering till they reach a stage utterly beyond remedy, while, on the other hand, pains of the severest kind recur in some instances for weeks or months, or even for years, and yet neither during life nor after death can any adequate explanation be discovered of their occurrence or their persistence. It seems, indeed, as if the sorrow which women are particularly heirs to were not confined to the time of parturition, but as if the sentence extended in a measure to the performance of all the sexual functions. Pregnancy and menstruation as well as child-bearing are very generally times of suffering, and sexual intercourse itself is not unfrequently attended or followed by the same kind of pain as has been referred to ovarian inflammation. Pain in the ovarian region is a very general attendant on prolapse of the womb, and it suffices but to introduce the sound into the cavity of the uterus in order to produce, and often with great intensity, pain referred to the situation of the ovaries.

But while such symptoms are of frequent occurrence, are sometimes as causelessly persistent as in others they are causelessly evanescent, the researches of morbid anatomists do not make us acquainted with such changes in the ovaries as can be supposed to

occasion them. We often indeed find the evidence of circumscribed peritonitis about the ovaries, but we find them in cases where there have been no symptoms of an urgent character during life, often indeed where no symptom of any kind has existed. But with the exception of those evidences of inflammatory action on the serous surface of the ovaries, the signs of a morbid process, too, which must soon have run its course, there are but few changes in those organs which an examination after death reveals, and those limited, or nearly so, to the Graafian vesicles, and usually to a few only of their number. In many of the instances, too, where such appearances are discovered, it has been matter of absolute certainty that during life all the sexual functions were performed with complete regularity, and without any suffering. I could not acquiesce in the opinion that almost all the numerous ills of womanhood are due to inflammation of the neck of the womb. I can as little see in them the evidence of ovarian inflammation, and I believe that in "nineteen cases out of twenty in which the ovarian regions are the seat of deep, dull, aching pain, and appear tender and rather swollen, there is no actual ovarian disease whatever."[1] I cannot finish the sentence by saying with the author whose words I have quoted, that the symptoms are almost invariably the result of some uterine lesion, for I believe that in many cases the symptoms are purely neuralgic in their character, independent of any local lesion, and curable less by local treatment than by remedies addressed to the general state of the constitution.

My opinions on this subject, indeed, correspond very closely with those expressed by Dr. Churchill,[2] of Dublin, who has described this class of affections as the result of *ovarian irritation*. To this term, for my own part, I see no kind of objection, though if preferred the simpler designation of *ovarian pain* will answer every purpose, and serve equally well to impress upon your mind the fact that mere suffering does not of necessity imply either the presence or the previous existence of inflammation. Pain is in itself the patient's ailment, and this even varies greatly in different persons, and causelessly and within very short intervals in the same person both in its character and intensity. It is ordinarily dull and aching, is accompanied by tenderness in the iliac region, in which situation a degree of fulness may often be detected, though careful percussion will discover that this fulness is due rather to the presence of flatus in the intestines than to the existence of any solid tumour. Though this pain seldom subsides completely, it is apt to be increased in paroxysms; walking, riding, exertion of any kind, and sometimes even the remaining for a short time in the erect posture, considerably aggravating it. Menstruation almost always adds greatly to its severity, and sexual intercourse nearly invariably increases it, sometimes even induces a paroxysm of great violence. The extent of the pain is very variable.

[1] Dr. H. Bennet, *op. cit.*, p. 222.
[2] *Dublin Medical Journal*, vol. xii., August, 1851, p. 82.

Always severest in the situation of one or other ovary (and for some unexplained reason generally in the situation of the left), it is sometimes limited to that spot; but in other cases extends more or less to all of the pelvic viscera; difficult, frequent, and painful micturition are then always experienced, and defecation is likewise often attended or followed by severe suffering. While pressure in the iliac region is always painful, a vaginal examination sometimes causes little inconvenience. In other cases, however, it is productive of pain which lasts for several hours, and this even though no trace of disease may be detected. In some instances indeed in which the suffering produced by examination was most severe, the uterus was smaller than natural, a condition which, when coupled with the sterility of the patient, seemed to indicate an imperfect development of the whole sexual system. In those instances where the patient's sufferings were severest there were almost always unmistakable signs of the hysterical temperament—often very obvious symptoms of hysteria—while even when this was not the case, the sudden aggravation or sudden cessation of the pain was sufficiently characteristic of its neuralgic character.

Though frequently independent of actual disease, pain such as has been described is also, in a very large number of cases, a concomitant or sequela of various uterine ailments. Of course when disease of any kind exists, its removal forms our first duty; but even when this has been effected, the pain often outlasts the cause which first excited it; or when it seems to have completely disappeared, may return during menstruation, or be rekindled by any imprudent exertion, or by sexual intercourse.

Just like that back-ache which bears so large a part among the minor ills of women, so this ovarian pain, while easy to mitigate, is very hard to cure. Leeches do not relieve it, or if they give any ease it is only for a few hours, and the pain then returns as severely as before. Blisters sometimes afford ease, though not often in those cases where the pain is most severe, while sometimes they seem rather to aggravate discomfort by the soreness of the surface which they occasion. Chloroform applied to the side generally gives temporary relief, even when the paroxysms of pain are most severe; while a piece of lint soaked in a mixture of equal parts of chloroform and oil, and covered with a piece of oiled silk, is an application which while in bed the patient may employ constantly with much benefit. The camphor liniment, with extract of belladonna, is another external application which I have found advantageous; and when these means have been fruitless, I have employed the tincture of aconite with advantage, applying the undiluted tincture by means of a brush, or laying a piece of lint soaked in it over the seat of pain.

These symptoms sometimes wear themselves out; the pain by degrees subsiding as the patient's general health improves; but I have never been able to trace the permanent cessation of suffering to the unaided use of any local measures. Some caution, too, is neces-

sary in their employment, for as with many neuralgic and almost all hysterical pains, so here any kind of local treatment which directs the patient's attention very much to the seat of her sufferings is apt to defeat its own object, and to perpetuate the evil instead of removing it. Attention to the general health must always go hand in hand with the local treatment, must indeed, I think, hold the first place. It would be useless to endeavour to go into long detail here with reference to this subject. I will only observe that there are two tonics which in cases of this kind generally do the most service. One of them is the sulphate of quinine, which, when tolerated by the patient, does the same kind of good as in other cases of neuralgic pain, though not so certainly, nor to the same extent. The other is the valerianate of zinc, to which I generally have recourse, wherever quinine is contra-indicated or cannot be borne. I know of but one drawback from its employment, and that is the permanent taste which it is apt to leave in the mouth, and the unpleasant eructations with which patients are sometimes troubled hours after it has been taken. There are indeed some cases, though I believe their number to be inconsiderable, in which the existence of *inflammation of the ovaries* is less questionable. The attack in these cases is usually definite in its onset, and for the most part succeeds either to sudden suppression of the menses, or follows at least some considerable disturbance of the menstrual function, or occasionally comes on not very long after a miscarriage, though once or twice I have met with the affection without being able to assign any probable cause for its occurrence. General febrile disturbance, usually of no great intensity, and by no means invariably ushered in by shivering, is accompanied by pain referred to the hypogastrium, or to one or other iliac region, and by frequent desire to pass water, which is usually high-coloured and deposits lithates. In the main, indeed, the symptoms are such as attend an attack of uterine inflammation, except, perhaps, that they are less severe. A vaginal examination suffices to show that the uterus is not the part affected, for though the heat of the vagina may be somewhat increased, the womb is neither enlarged nor tender, nor are its lips puffy; while, at the same time, pressure against the roof of the vagina, at one or other side of the womb, not only produces considerable pain, but very often detects the indistinct outline of the enlarged ovary. Sometimes, indeed, the ovary may be very clearly felt, especially if, as is sometimes the case, it occupies the *cul-de-sac* between the uterus and rectum. Almost always, too, the finger introduced into the bowel distinguishes the ovary much more clearly than can be done by any mere vaginal examination, though I do not think an examination per rectum so essential to the recognition of the ailment as it has been alleged to be by Dr. Löwenhardt,[1] who a few years since drew the attention of medical men to its occurrence. The general symptoms, combined

[1] *Diagnostisch-praktische Abhandlungen, &c.*, 8vo., Prenzlau, 1835, p. 297.

with the absence of affection of the uterus, and the pain on pressure at its side, suffice to point to the ovary as the seat of the patient's sufferings. When the tumour can be distinguished, it may be recognized as the ovary by its oval shape, its smooth surface, its elasticity, a certain degree of mobility, of which it is found susceptible, as well as by the peculiar sickening sensation which pressure upon it produces.

These symptoms for the most part have a sufficiently active character to enforce the patient's attention, while the employment of local leeching, of the tepid hip-bath, the use of anodyne and mild antiphlogistic remedies, and the observance of absolute rest; the same remedies, in short, as would be applicable in cases of inflammation of the uterus itself, generally suffice for their removal in the course of a few days.

Some exceptional cases are, however, occasionally met with in which, in a somewhat mitigated form, the above-mentioned symptoms continue for months or years, and are found to be associated with the presence of the enlarged and congested ovary in the *cul-de-sac* between the uterus and rectum. Dr. Rigby[1] was, I believe, the first person who drew attention to this condition under the name of *displacement of the ovary*, and the cases of it which have come under my notice bear out the accuracy of his description; except that I have not observed the paroxysms of pain to have anything like that intensity which they assumed in some of his cases.

The condition seems to be one of considerable rarity, for I have a record of but four instances of its occurrence, though I remember seeing one or two other cases of which I have failed to preserve an account. The patients in all my cases were married women, of whom the eldest was thirty-two; the youngest twenty-three years of age; but Dr. Rigby relates an instance in which he met with the condition in an unmarried girl only eighteen years old. Two of my patients were sterile, the other two had given birth to children, and both of these latter dated their symptoms from their last delivery. In all of them the severe pain attendant upon sexual intercourse had by degrees compelled its discontinuance, and had much to do with the application of the patients for medical aid. Besides this, however, there were complaints of pain referred to the lower part of the abdomen, though severest on one side, aggravated by exertion, by menstruation, often induced with great intensity by defecation, and generally being severer at night than in the daytime, thus preventing sleep, or causing the rest to be very disturbed. In one patient menstruation was natural, except that it was attended by unwonted suffering; but in the other three the discharge was both excessive in quantity, and anticipated the proper period of its return. Pressure in one iliac region always aggravated the pain: but the paroxysms of suffering which were every now and then superadded to the abiding

[1] *Medical Times*, July 6, 1850.

discomfort, and which were attended by a sense of darting and shooting referred to the womb, lasting sometimes for several hours, came on without any assignable cause.

These symptoms were present with considerable uniformity in all the cases, and in all, on an examination per vaginam, there was found behind and rather to one side of the uterus, or else quite in the *cul-de-sac* between the uterus and rectum, an oval body, slightly movable, elastic, intensely tender to the touch, and immediately recognized by the patient as the point whence all her sufferings proceeded.

In all of these cases, rest, abstinence from sexual intercourse, and the application per vaginam of leeches to the neighbourhood of the painful part, were followed by the gradual cessation of suffering, the diminution in size of the swollen ovary, and the almost complete removal of the tenderness. In no instance, however, was there any such disappearance of the tumour felt through the roof of the vagina as to suggest the idea that the main element in the production of the patient's illness had been the displacement of the organ, or that the improvement in her condition was attributable to the ovary having regained its natural position.

My own impression is, that cases of this kind are to be regarded as instances of a *chronic congestion of the ovary* and slow increase of its size, rather than as illustrations of any mere change in the position of the organ. The enlarged ovary almost always descends in the pelvis, and in the early stage of ovarian dropsy the organ may often be felt per vaginam at a time when no tumour is perceptible in the abdomen. But though the organ may by growth thus apparently change its situation, and though, besides, its ligament elongates readily enough, as we see in cases where the ovarian cyst has already ascended into the abdominal cavity, we should yet, I think, be in error if we fancied the organ so loosely tethered in its place that without any other alteration it could fall down into the *cul-de-sac* between the vagina and rectum, and be made to resume its proper position merely by the patient placing herself in a prone posture. I imagine whatever relief a patient may experience from assuming this attitude may fairly be referred to the removal from the congested and tender organ of the weight of the superincumbent intestines, to which, either in the sitting or in the recumbent posture, it is subjected.[1]

[1] There are two conditions which I do not like to pass over entirely without notice, though neither of them has come under my own observation. One of them is *Hernia of the Ovary*, of which the best account is still that given by Deneux, in his *Recherches sur la Hernie de l'Ovaire*, 8vo., Paris, 1813, who has there collected the particulars of all cases recorded down to the time of the publication of his essay. The compilers of the *Bibliothèque du Médecin-Praticien; Maladies des Femmes*, vol. i. p. 648, have a long article on the subject, for which, however, they are chiefly indebted to Deneux; while Meissner's laborious work, vol. ii. p. 240, contains additional references to cases of ovarian displacements.

The other affection is one for our knowledge of which we are entirely indebted to M. Huguier, who describes in the *Mémoires de la Société de Chirurgie*, vol. i., 1847, p. 295, *Serous Cysts* on the exterior of the uterus. In the lecture on Cancer, p. 268, I

LECTURE XXIV.

OVARIAN TUMOURS AND DROPSY.

Special disposition to formation of cystic growths in the ovary.

Varieties of cysts—the SIMPLE CYSTS; cysts of the Wolffian bodies; cysts truly ovarian: their relation to dropsy of the Graafian vesicles; their structure and contents; modification of their form when several are present. Questions as to their cause.

COMPOUND OR PROLIFEROUS CYSTS: possible development from simple cysts. Structure and contents of compound cysts, and of cystosarcomatous growths.

ALVEOLAR OR COLLOID GROWTHS of the ovary.

CUTANEOUS OR FAT CYSTS: their peculiarities of structure and their contents.

Comparative frequency of affection of one or both ovaries, and of different forms of ovarian tumour.

I HAVE had occasion, in the course of these Lectures, to make frequent incidental reference to enlargement of the abdomen as an attendant upon various ailments of the sexual system; the consequence and one of the signs of their presence. To-day, however, we are about to enter on the examination of a class of diseases whose most important and most frequent characteristic is that they bring

described productions of a similar kind which had occasionally come under my own notice, though their relation appeared to be somewhat different from those of the cysts of which M. Huguier speaks. According to him, they are sometimes developed immediately beneath the peritoneum; at other times in the sub-peritoneal cellular tissue; or, lastly, are subjacent to that layer of fibro-cellular tissue which connects the serous investment of the uterus with the substance of the organ. Their most frequent seat seems to be the posterior surface of the uterus, since they were found occupying that position in seven out of thirteen cases, while they were situated only four times on its anterior wall, and twice on its fundus. Though generally sessile, they are now and then connected with the uterus by a narrow neck, which sometimes has shrunk to a slender pedicle of cellular tissue. Their size varies from that of a millet-seed to the bigness of an egg, or even of an orange; and the larger cysts might, especially if pediculated, be readily taken for cysts of the ovary. The diagnosis between the two would seem, indeed, to be scarcely possible, though no practical evil would arise from an error. M. Huguier connects their occurrence with previous attacks of uterine congestion, or of peritoneal inflammation; accidents, however, which are so common in comparison with the cysts to which they are supposed to give rise, that their influence must, I think, be regarded as very doubtful. The symptoms which they produce, judging from the two cases in which they were discovered during the patient's life, would appear to be entirely mechanical, and to result from their pressure on adjacent organs. In one instance the cyst was punctured per vaginam; about ℥ij of transparent serum were evacuated, and the cyst wall was lightly touched with the nitrate of silver. The fluid did not re-collect, and no serious symptom followed the puncture.

The chief importance of these cysts is, perhaps, from their introducing a new element of uncertainty into the diagnosis of ovarian tumour in an early stage.

with them enlargement of the abdomen, that this is often the first symptom of their existence, and that to it is due no small share of the patient's sufferings.

But, while they have this one symptom in common, *Tumours of the Ovaries* differ most widely in all other respects. They occur in the young and the aged, in the single and in the married, in the sterile and in women who have given birth to many children. They are formed sometimes by simple cysts containing serous fluid, at other times they are composed of solid matter, while in very many instances their structure is identical with that of growths which morbid anatomists have unanimously designated malignant. Their rate of increase is sometimes quick, at other times slow, and the disease which had seemed in course of rapid development becomes occasionally stationary, and so remains for months or years; while now and then nature herself interferes, and, excelling all that the most skilful physician could do, completely takes away the ill which medicine is usually impotent to cure. Their diagnosis, in some cases most easy, is in others attended by extreme difficulty; and yet there are scarcely any ailments in which so much is involved in a right decision. The determination that the supposed disease is in reality due to the existence of pregnancy, or that the suspected pregnancy is but the evidence of disease, often has moral consequences which touch more nearly the profoundest sources of human happiness or misery than any which would follow the mere assurance, though never so positive, of coming health, or the admission that the future has no other prospect than that of a lingering and painful death. The prognosis to be formed, and the treatment to be adopted, bring with them, too, their own peculiar difficulties. Recovery, when there seemed small ground for hope; death, when little had appeared to call for apprehension; medical treatment rejected because it has been proved inefficacious; surgical proceedings shrunk from because they are known to be hazardous; additional facts scarcely seeming to widen our experience, or serving only to detect the fallacy of some loudly vaunted plan of cure; such are the uncertainties, and such the difficulties that meet us when we propose to ourselves the inquiry—What shall we do? In short, there are no diseases whose pathology is more imperfect, whose symptoms are more fluctuating, whose diagnosis is more obscure, or whose treatment is founded on more uncertain data, than those very diseases of the ovaries which are yet so important, and to whose study I must now beg to call your most patient attention.

In each of the different organs of the body we find a disposition more or less marked to diseased formation similar to its own proper, healthy structure. This peculiarity is observable in tumours of bone, of muscle, of nerve, or of fibrous tissue, and even in the case of those formations which, from their non-identity with healthy structures, have received the name of heterologous, something of the same disposition is still perceptible. Thus the cancerous tumour of bone, while interfering with and destroying the structure of the part in which it

is formed, is yet itself built up upon a bony skeleton or fabric; and I have already pointed out to you how, even in cancer of the womb, the bulk of the organ is increased, not merely by the morbid deposit in its substance, but also by the development of its natural structure.

It is in accordance with this law that, in the ovary especially (as to a less degree in all glandular organs, such as the thyroid body, the testicle, and the mamma), there exists a peculiar liability to cyst-formation; and that nineteen out of twenty of all *ovarian tumours* are *cystic growths*.

Very various classifications of *ovarian cysts* have been proposed, according as they have been regarded simply from a practical point of view, or as the minuter differences in their anatomical structure have also been taken into consideration. It is, however, so desirable to avoid multiplied divisions and subdivisions, that I propose to conform to the arrangement adopted by Mr. Paget,[1] and to speak first of Simple or Barren Cysts, and, secondly, of Compound or Proliferous Cysts. This arrangement, too, will, I think, be found not simply anatomically correct, but also practically convenient.

The *first* kind of *Simple Cyst* is one which, though in the immediate vicinity of the ovary, is, strictly speaking, not connected with it; but which I mention here because, until comparatively recently, its nature was misapprehended, and erroneous conclusions based on this misapprehension have been applied to real ovarian cysts.

In examining the bodies of female infants, and less often of female adults, we may sometimes notice hanging from the under surface of the Fallopian tube, nearer to its fimbriated than to its uterine extremity, small delicate cysts, varying in size from the bigness of a pea to that of a cherry, furnished with a slender pedicle from one to three inches in length, and containing a transparent, serous, or slightly gelatinous fluid. Now and then a similar cyst may be seen bearing the same relation to the Fallopian tube, with the exception of being sessile instead of pediculated. Sometimes, too, a cyst of larger size may be observed within the folds of the broad ligament situated between the ovary and the Fallopian tube, but obviously not originating in either; and the cysts of this latter kind, unlike the others, are observed in the grown subject. The difference of their seat seems to be the only point of dissimilarity between them, for the wall of both is composed of a thin, structureless membrane, incapable of division into layers, often, though by no means constantly, furnished with a lining of nucleated epithelium; while their contents, though usually serous and colourless, are sometimes reddish and gelatinous.

The delicacy of the cyst-wall, the absence of any support, and the slenderness of its footstalk, are doubtless, as has been suggested by M. Verneuil,[2] the reasons why the pendent variety of cyst is seldom

[1] *Surgical Pathology*, vol. ii. p. 26.

[2] By far the best account of these cysts, which contains also a notice of the observations of previous writers, is that of Dr. Verneuil, *Recherches sur les Kystes de l'Organe de Wolff*, in the *Mémoires de la Société de Chirurgie*, 1854, vol. iv. p. 58.

met with after early infancy, while the support which the peritoneum on either side furnishes to the sessile cyst which is situated between the folds of the broad ligament, allows of its readier enlargement and of its attainment of a greater size. An examination of the pedicle of those cysts which hang from the Fallopian tube furnishes the clue to the understanding of the real nature of these growths. This pedicle is often found to be hollow, though in the course of its gradual elongation and attenuation it becomes converted into a slender cord. The canal, however, sometimes even communicating with the cyst, points to its origin in the dilatation of one of the small cæcal tubes which make up the Wolffian bodies in the fœtus, and the slight remains of which, difficultly discernible in the adult, have received from their describer the name of the Corpus Rosenmülleri.

The size of an egg, an apple, or an orange, is the greatest magnitude to which these cysts have yet been proved to attain; and the pendent cysts very rarely indeed reach dimensions sufficient to make them recognizable during life. With the exception, too, of the giving way of the pedicle of the pendent cysts, and the probable rupture of the delicate walls of both kinds of these growths, there are no changes which have been observed to take place in them; and in no instance has cyst formation occurred in their walls or into their cavity, though several distinct cysts, especially of the pediculated kind, are by no means unfrequently seen in the same subject.

Before proceeding to examine the other and more important cysts which really spring from the ovary itself, we must for a moment notice a circumstance which has given to these cysts of the broad ligament, as they have generally been termed, a greater pathological value than really attaches to them. It has been very customary for medical men, whenever they met with a simple cyst tolerably movable, and of moderate size, to assume that such a cyst was not ovarian, and to console their patients with the assurance that it is a less serious disease, and one much less likely to increase. Now, while it is of great moment to give to our patients every legitimate comfort, and to encourage all reasonable hope, it is yet no less important, in the interests alike of science and of humanity, that we should not make large promises, or give positive assurances without adequate grounds. A visit to any of the large museums of this metropolis will suffice to convince any one that cysts of the Wolffian bodies of size sufficient to be distinguishable during life are of very great rarity, while the same evidence will also prove that for such cysts to exceed the dimensions of an apple is rarer still. Whenever, then, a tumour is discovered in the abdomen which has attained a greater size than that of the doubled fist, that circumstance may be taken as in itself affording almost conclusive proof that the cyst is not extra-ovarian, nor of that kind concerning which it can be predicated

that its tendency will be to remain stationary, rather than to increase in size.

But we may now pass to the study of those various kinds of *cysts* and *cystoid growths* which have their *origin in the ovary itself.*

The *simplest* of these, the least dangerous, I fear, however by no means the most frequent, are those which are produced by the *dropsy*, or over-distension with fluid *of one or more Graafian vesicles.*

The structure of these simple ovarian cysts plainly indicates their origin. They are furnished with three coats; the first, the peritoneal investment of the ovary; the next, the capsule of the organ, on whose surface ramify the vessels that supply it; and the third, the wall of the Graafian vesicle itself, which is usually much thickened, generally divisible into several layers, and has a lining of tessellated epithelium. This laminated structure of the ovarian cyst is, as we shall hereafter see, not without its practical importance, inasmuch as it sometimes increases the difficulties of the operator, who cannot, if adhesions exist, always distinguish readily whether his finger is breaking down the connections between the enlarged ovary and the peritoneum, or whether it is separating the layers of the cyst-wall.

The surface of these cysts is generally white and glistening, and their interior smooth and polished; sometimes of a dead white colour, or even of a mother-of-pearl lustre; unless the growth has been the seat of inflammation, when it will in many parts be dull, roughened on its interior by old deposits of lymph, and its walls will be found to present various degrees of firmness, density, and thickness. Even independently of previous inflammation the thickness of the cyst-walls often varies at different parts, and is by no means most considerable in all cases close to the pedicle of the growth.

The vessels of these, as indeed of all ovarian cysts, are usually of considerable size; while their distribution is uncertain beyond the fact that all converge towards the pedicle of the cyst. They almost all present a venous character, or, as Cruveilhier aptly says, in describing the structure of a large ovarian cyst:[1] "They are venous sinuses analogous to those of the dura mater," and, ramifying immediately beneath the peritoneum, their delicate outer wall seems wholly formed by that membrane. The large size of these superficial veins is to be borne in mind as an occasional source of danger in tapping; while their convergence towards the pedicle of the tumour constitutes one of the principal objections to the operation of tapping per vaginam. The branches which pass from these trunks towards the interior of the cyst, and which ramify, sometimes very abundantly on its inner wall, are small in size, but still retain their venous character, and this preponderance of the venous

[1] *Anatomie Pathologique Générale*, 8vo., Paris, 1856, vol. iii. p. 408.

over the arterial system is the great peculiarity of the vascular supply of these growths.

Be their size what it may (and this is liable to very wide variations; for while sometimes no larger than a pea, they contain in other cases a gallon or a gallon and a half of fluid), their contents are usually of the same description, namely, serum, often of a rather low specific gravity, and very seldom exceeding 1020, highly albuminous, of a slightly greenish colour, and though generally transparent, yet occasionally more or less stained with blood. Sometimes, indeed, the fluid contains a large admixture of pus, and now and then presents characters but little distinguishable from those of healthy matter. This, too, may be the case even when few local symptoms of inflammation have been present, so that it is not possible to foretell with any certainty the nature of the fluid which even a simple ovarian cyst may be found to contain; or to infer the absence of inflammation from the absence of pain. The circumstance which imparts to this fact its practical importance is that inflammation of the interior of the cyst is in very many instances accompanied by inflammation of its peritoneal surface, of extent and intensity sufficient to produce very considerable adhesions with adjacent viscera, while even this peritonitis may give rise to no severe pain. The feasibility of various surgical proceedings for the cure of ovarian dropsy depends entirely on the absence of adhesions. The want of any certain means by which to determine their presence or absence is one of the most serious of the difficulties which beset all operations for the extirpation of diseased ovaries.

I have described this affection hitherto as it presents itself to our notice when confined to a single Graafian vesicle. It is, however, seldom that the disease is so strictly limited, but usually other vesicles, sometimes in both ovaries, show a disposition to the same dropsical condition. Not unfrequently, too, we meet with cases in which the affection of several vesicles has appeared to have commenced simultaneously, all being equally enlarged; and the ovary containing as many perhaps as ten or fifteen small cysts no bigger possibly than a large pea. As these cysts increase in size, they lose by their mutual pressure the regularly globular form which at first they present, becoming flattened, or somewhat wedge-shaped, with their broader end outwards. When, however, the ovary has attained to dimensions greater than those of an unshelled walnut, or of an egg, the development of one or two of the cysts generally goes on at the expense of the others, and a multilocular tumour is thus produced, made up of a number of simple cysts, of very various sizes, from that of the adult head to that of an apple or an orange. The contents of these cysts, too, may vary as much as their size, for while some are filled with transparent serum, others may contain fluid deeply tinged with blood, and others again a sero-purulent secretion, according as hemorrhage or inflammation has occurred in one and has not occurred in another, even though immediately adjacent. These varieties in

the same tumour have sometimes given occasion to the opinion that a growth is a compound cyst, when in reality it is only an aggregation of simple cysts in which morbid processes of various kinds have been going on. It is by no means an unusual occurrence, too, with tumours of this description, for their pressure on each other to produce absorption of the dividing septa, and for a multilocular tumour to be thus in the course of time converted into a single cyst. The openings of communication between the different cysts are usually of a circular form, with smooth edges, as if a portion of the wall had been removed by some cutting instrument, and while small at first, the advance of the process of absorption by degrees enlarges them; till at length a slight irregularity in the external contour of the tumour remains as the only evidence of its original structure. The circumstances that regulate the process are, however, by no means clearly understood; for while the absorption of the septa sometimes takes place at a time when none of the cysts are larger than a marble, it is far from unusual to find the partitions still entire when some of the cysts have reached the size of the adult head, or have even attained still larger dimensions.

It is, perhaps, needless to say that dropsical enlargement of the Graafian vesicles is by no means the only source whence simple ovarian cysts may be produced. There can, indeed, be no doubt but that the development of cysts may go on in the ovary just as it does sometimes in the kidney, not by any enlargement of pre-existing cavities, but by a process which is one of new formation from the very beginning. Still, the whole tendency of pathological research is to increase the number of instances in which cysts are formed by the enlargement of pre-existing cavities; and besides, the question has been set at rest, as far as the occasional production of ovarian dropsy from enlarged Graafian vesicles is concerned, by Rokitansky's discovery of the ovule within the cyst, in a case of incipient cystic disease of the ovary.[1]

The precise mode in which the dropsical condition of the vesicles is produced, is, indeed, and probably will always remain, to a great degree, unknown. It seems, however, to be very likely that, in some cases at least, a state of congestion of the vesicle, and hemorrhage into its cavity, are the first steps towards the production of the subsequent effusion. In the museum of Guy's Hospital, to which I was most courteously admitted, are a series of preparations which appear

[1] *Wiener Wochenblatt*, 1855, No. 1, as quoted by Scanzoni, *Lehrbuch der Krankheiten der Weiblichen Sexual Organe*, 8vo., Wien, 1857, p. 354. The question is one of so much moment with reference to the prognosis of ovarian dropsy, and the opinion of so high authority as Dr. Bright (see *Guy's Hospital Reports*, vol. iii., 1838, pp. 181 and 193), is so decidedly unfavourable that one rejoices at obtaining any evidence which enables us to soften the very dark hues of the picture which he has drawn. "This case," says he, *loc. cit.*, p. 193, "adds to the doubt I have already expressed of having met with any very distinct case of dropsical accumulation in the Graafian vesicles, as distinguished from the disease which runs into the malignant ovarian tumour."

to illustrate this mode of origin of ovarian dropsy. In some of them, a clot alone is seen within the vesicle; in others, the clot occupies only a portion of the cyst, adhering to its wall by a sort of pedicle, while the remainder of the cavity is occupied by a serous fluid; the relative proportions of the clot and the fluid varying much in different specimens. Now, just as hemorrhage into the sac of the arachnoid is followed, in many instances, by the subsequent effusion of serum so far exceeding in quantity that of the blood originally extravasated as to produce one form of chronic hydrocephalus, so there can be no reason for doubting but that hemorrhage into the sac of a Graafian vesicle may, in like manner, be followed by a similar hypersecretion.

A theory, indeed, has been propounded, the very opposite of this, by Professor Scanzoni,[1] who suggests that the dropsical condition of the Graafian vesicle may be due to the flow of blood to the ovary at a menstrual period having been insufficient to produce the rupture of the sac and the escape of an ovule, but sufficient only to occasion a certain degree of congestion, terminating in an increased effusion of fluid into its cavity. This theory is based chiefly on the alleged frequency of amenorrhœa, or of scanty menstruation, as a precursor of ovarian dropsy; an allegation which, as we shall see hereafter, is scarcely substantiated.

In know of no other facts, nor of any other plausible theory bearing on the production of dropsy of the Graafian vesicles; and I fear that I must confess my inability to determine the proportion of instances in which simple cysts of the ovary are due to the enlargement of these cavities, and of those in which the cysts are themselves of new formation. That simple cysts may arise here, however, as in other parts, by the mere collection of fluid in the parenchyma of the organ, and the gradual formation of a cyst around it, I see no reason to doubt.[2] Possibly some of the very delicate and thin-walled ovarian cysts which we occasionally meet with may have this origin; but my conviction is, that this is not the general mode of production of simple cysts, but that most are formed by the distension of a pre-existent cavity.

Another question of greater practical moment is, whether single cysts always remain single, or whether they may not become *proliferous* or *compound cysts* in the course of their development. Here, too, it is to be regretted that our data do not suffice for a satisfactory answer to this inquiry. The practical consequences involved in the decision of this point are very obvious; for it is apparent that if at any period a simple cyst is capable of passing into an active state, and of enlarging not by mere distension of its cavity, but by growth in its interior, or by cyst-formation in its walls, the expediency of having recourse to early and very decided therapeutical proceedings

[1] *Op. cit.*, p. 858.

[2] A mode of cyst-production most fully illustrated by Professor Bruch, *Zur Entwicklungs-geschichte der Pathologischen Cystenbildungen*, in *Zeitschr. f. Rationelle Medizin*, vol. viii., 1849, p. 91.

becomes far greater than it otherwise would be. My belief, though I cannot adduce absolute proof of its correctness, is such that a change may take place, and that a cyst originally barren may become proliferous; that its continuing simple is rather a happy accident than a condition on the permanence of which we can calculate with any certainty. Without the stimulus of impregnation, a Graafian vesicle does, we know, sometimes produce hair, fat, teeth, cartilage, and bone, and the proliferous power of which these are the highest instances, does also, I believe, exert itself in lower forms in the production of endogenous growths in its interior; and, though possibly less often, in exogenous cell formation from its walls.

In some of the cases of endogenous cell development the growths that occupy the interior of the cyst spring universally from its walls, and consist of an immense number of small pedunculated cysts or vesicles, multiplied apparently by the same simple process of growth as has been so well studied in the hydatid disease of the chorion. Such growths may, too, be so numerous as to fill nearly the whole of the interior of a very large cyst.[1] In other cases the endogenous growth, though similar in its character, does not arise from the whole of the interior of the cyst, but is connected with it by a pedicle, from which a pyriform mass of cystic growths proceeds.

Besides these forms of endogenous growth there is another in which the cavity of the parent cyst is more or less completely occupied by others of a smaller size, but springing from it by a broad base,[2] and containing within themselves others of a third order, of smaller size, and with thinner walls. As these cysts grow, some probably empty themselves completely into the parent cyst, and, collapsing, become adherent to its walls; thus giving to them that thickness and resistance which in some cases, even of large ovarian cysts, are very remarkable. At the same time the progressive increase of the smaller cysts, and the constant formation of new cysts, help to make up that enormous mass to which ovarian tumours sometimes attain.

But, while there is perhaps room for doubt as to the nature of the original growth whence these forms of complex cysts arise, there can be no question but that some cysts assume the complex character from their very commencement, and are not developed out of any transformation of the Graafian vesicles. In these cases, we find the ovary converted into a tumour of irregular form; its firm, fibrous capsule, some quarter or third of an inch in thickness, inclosing a number of cysts or cells, one or two of which may greatly exceed the dimensions of the others, and be capable of containing many quarts of fluid, while the remainder vary in size from the bigness of a marble to that of a pigeon's egg or an apple. While some of them may appear as separate cysts, adherent to the others, but apparently developed independently of them, others have obviously been formed

[1] As in a very remarkable preparation, No. 2245[64] in Guy's Hospital Museum.
[2] As No. 2622 in the Hunterian Museum.

in the thickness of the cyst-wall itself, and project, sometimes inwards, at other times towards its exterior. When the growths have attained to any considerable size, inflammation generally roughens their originally smooth internal membrane, and deposits of lymph thicken it; or the collapse of some of the smaller cysts, and their incorporation with the dividing walls of the different cavities, thicken as well as otherwise alter the septa. At the same time, too, similar causes modify their contents; so that while one cyst is filled with a serous fluid, another contains a glairy, albuminous matter, or its contents are deeply tinged with blood, or are of a dark chocolate colour; while others contain pus, or sero-purulent fluid, or a liquid in which scales of cholesterine sparkle like the brilliant particles in Dantzic *eau de vie*. It is usually towards the pedicle of these tumours, where the smaller cysts are mostly situated, that their structure can be best studied. They are then seen to be formed by a smooth, polished membrane, tough and resistant, though thin, scarcely semi-transparent, but of a white colour, and supplied by long, slender bloodvessels, which ramify on their outer surface. Their general form is oval, but as they increase in size this is much modified by their mutual pressure on each other; while besides, irregular spaces exist here and there, partly produced, perhaps, by the fusion of two or more cysts together, partly by the intervals left between several adjacent cysts. The smaller size of the cysts near the pedicle of the tumour is apparently due to their being subjected to a greater degree of compression than the others; for sometimes a large cyst will develop itself downwards into the pelvic cavity; while again, where the increase of the tumour has been very rapid, a number of small cysts may sometimes be found towards its upper part, where apparently the resistance offered by the transverse colon, the liver, stomach, and diaphragm, has also prevented their increase.[1]

The amount of solid matter which enters into the composition of these cystic tumours of the ovary varies exceedingly. In many cases, as in those just described, the whole mass is but a collection of cysts whose walls, even when thickest, bear but a small proportion to the quantity of fluid which their cavities contain. In other instances, however, these proportions are reversed, and the bulk of the solid matter far exceeds that of the fluid. This is the kind of tumour to which the name of *Cystosarcoma* has been applied by Müller,[2] who describes it as principally composed of a more or less firm, fibrous, or vascular mass, but invariably containing solitary cysts in its substance. The fibrous masses consist of an albuminous substance, and sometimes contain granules scattered between their fibrils, and the fibrous tissue forms the stroma in which the separate cysts are imbedded.

[1] A very good drawing of a compound ovarian cyst is given by Dr. Bright, *op. cit.*, pl. v. p. 276.

[2] *On Cancer*, &c., English translation, London, 8vo., 1840, p. 170.

I do not feel myself competent to decide how far these growths really require to be referred to a separate category. The structure of the cysts, and their various contents, are analogous to what one observes in other compound ovarian cysts. Perhaps, however, it should be added that fat cysts, or cysts containing hair, teeth, or other products of cutaneous tissues, when not existing alone, are most frequently associated with cysto-sarcoma; and, further, that these comparatively solid growths do not attain to the enormous dimensions of other compound ovarian cysts, and very seldom exceed the size of the adult head.

Another form of *compound ovarian cyst*, allied to the preceding kinds, but I believe essentially different from them, is that in which the organ is the seat of *alveolar or colloid cancer*, a disease[1] whose precise relations to other varieties of carcinoma are as yet undetermined. The grand characteristic of colloid degeneration of any part is, as you know, the development in its substance of innumerable cells, containing a tenacious, gummy secretion, which vary from a size too small to be discerned by the naked eye, to an inch or rather more than an inch in diameter. These cells increase, though by no means exclusively, by endogenous growth, and the presence of a countless number in the same stage of development shows that the formation of very many occurs simultaneously. If their contents are washed out so as to leave behind only, as it were, a skeleton of the growth, it is then perceived that very many of the cells or sacculi communicate with each other; the whole mass having a honeycombed appearance, or resembling, perhaps, more closely a section of the lung of a reptile. The septa between the cells are in general of a somewhat firm, though delicate fibrous tissue, of a whitish, sometimes of a dead-white colour; though while the cells are very minute, their walls or the septa between the areolæ are semi-transparent, and their jelly-like contents shining through, they look not unlike grains of boiled sago.

In the ovaries this colloid disease assumes many different forms. Sometimes several rounded masses make up an irregular tumour, which is solid to the touch, and firm on section, presenting no trace of the proper tissue of the part, but a structureless substance in which are imbedded countless semi-transparent grayish cells, scarcely any of which are larger than the head of a large pin. Again, in other cases the cell-walls generally are very delicate, while large spaces are left between, of irregular form, and filled with the characteristic gelatinous secretion, which may be collected to the amount of several ounces or of a pint, or more. Such spaces, however, do not appear to be cysts enlarged beyond the dimensions of those which surround them, but to be mere interspaces of irregular form pro-

[1] A good representation of alveolar cancer of the ovary is given by Cruveilhier, *Atlas*, etc., Livr. v. pl. 3.

duced by the absorption or liquefaction of the cell-walls, and the consequent escape of their contents into a common receptacle.[1]

Besides the instances in which colloid disease exists alone, cases are by no means unusual of its association either with compound cysts of the ovary, or with fungoid or medullary cancer of the organ. In the former case it is far from uncommon for one or two of the cysts to have attained to a very great magnitude; and the colloid matter may be in part poured into them from some of the adjacent cells, so as to give to their contents almost the same degree of tenacity as is observed in the secretion within the small cells of alveolar cancer. Even though this should be the case, however, and though there should be very close juxtaposition of the two structures, the differences between them will, I think, be sufficiently obvious.

In the case of the association of genuine fungoid cancer with the colloid disease, it is usually about the pedicle of the tumour, and near its base, that the great mass of cancer is situated. It is not, however, limited to this part, and sometimes a mass of soft brain-like substance is found in the midst of the tumour, surrounded by the delicate cysts and gelatinous substance of alveolar cancer; while at other times the medullary matter seems altogether fluid, and on cutting through the tumour it issues forth from some of the irregular cavities which have been already spoken of.

The peculiarities of the matter contained in the cells of colloid cancer have been frequently referred to; and even in growths of considerable magnitude these characters are sometimes still present in a marked degree. Often, however, they are more or less modified by the same causes as influence the contents of other forms of ovarian cysts, and the viscid secretion is often dark from the admixture of blood; sometimes even of a dark chocolate colour, sometimes grumous; but I do not think that it becomes purulent, as is not unfrequently the case with the secretion of the other ovarian cysts.

One form of ovarian cyst still remains for notice, and it is one concerning which some problems still remain unsolved. *Cysts* are sometimes formed in the ovary, either alone, or associated with cystosarcoma of the organ, *containing fat, hair, teeth, or other products of cutaneous tissue.* The presence of scales of cholesterine, or of small quantities of fat, is indeed often observed both in simple and in compound ovarian cysts, and is due to the rapid formation and rapid desquamation of their epithelial lining, and to the altera-

[1] Remains of the septa may in these cases be discovered by means of the microscope, in the midst of the colloid material. It was the observation of this fact which led Virchow, *Verhandlungen der Gesellschaft f. Geburtshülfe*, vol. iii. p. 197, to the assumption that all compound ovarian cysts are in reality instances of colloid disease of the organ in which this liquefaction and disappearance of the septa has taken place. This theory, however, in the extension given to it by Virchow, is now generally regarded as untenable. Indeed, it is by no means unusual to meet with compound ovarian cysts which present no similarity either in their structure or in the nature of their contents to alveolar cancer; and I believe that the microscope fully bears out the verdict which observation without its aid would induce us to return.

tions which the corpuscles undergo. In these cysts, however, fat is present in much larger quantities, so that it forms a layer on the surface of the fluid removed by tapping as firm as lard, or even firmer; or collects perhaps into large irregular flakes or masses, or else into a number of small balls like marbles, of a yellow colour, and of the consistence of tallow, shaped into these symmetrical forms by mutual attrition in the fluid which partly filled the cysts, of which there is a remarkable specimen in the museum of Guy's Hospital.[1] Sometimes the cyst contains no fluid, but a matter of the appearance and consistence of putty, possibly intermingled with hair. Hair, indeed, is often met with in these cysts, sometimes in shapeless, tangled masses, but more frequently rolled together into round balls; and teeth, bone, and bone cartilage are also all found in many instances. When it had been clearly ascertained that these structures existed independently of impregnation, it was next assumed either that they were the relics of some imperfectly developed germ included by accident within that ovule which had gone on to perfection, and that they were therefore congenital formations, or else that the ovule itself was capable of a certain imperfect attempt at growth independent of its appropriate vivifying power, and thus produced incompletely, and with no orderly arrangement, some of the materials of the fœtus.

In a measure, too, both of these theories are probably correct, though cutaneous cysts are found in circumstances which do not seem to admit of either of these solutions. In all such cysts there may be found any of the products of dermoid tissue regularly formed, as though growing in their natural situations; the hairs implanted in a perfectly normal manner into the cutaneous tissue, which is found to be supplied with perspiratory and sebaceous follicles, while the teeth, in different stages of development, are imbedded in tooth sacs. We owe the observations which have removed cases of this kind from the domain of the wonderful, and have shown how method and order reign, where a more imperfect knowledge could discover nothing but mere freaks of nature, to the acuteness of a German physician.[2] Another of his countrymen has done much to complete our information, and I will briefly state to you the results at which he has arrived. Dr. Steinlin,[3] on examination of the body of a young woman from whom seventy-eight pounds of pus were removed in four successive tappings, found that while the left ovary contained several small cysts, none of which exceeded the size of a hazelnut, the right ovary was the principal seat of disease. It was made up of many cysts, all of which, with the exception of one large sac containing several pounds of pus, were fat cysts, varying from the size of a grain of linseed to three or four inches in diameter. The fat was

[1] No. 2237[a]. Rokitansky also relates a remarkable case of a somewhat similar kind, *op. cit.*, vol. iii. p. 597.

[2] Dr. Kohlrausch, in Müller's *Archiv*, 1843, p. 365.

[3] *Zeitschrift. f. Rationelle Medizin*, vol. ix. p. 146.

in different conditions in different cysts, and in the older cysts was often intermixed with hairs intertwined into a mass. All the contents being removed, the greater part of the cyst-walls was seen to be smooth and shining, but there were one or more round islands, of a dull whitish colour, with a wart-like prominence in their centre, overgrown with hair; and other similar spots without the wart-like prominence, and without the growth of hair, but with several teeth or portions of bone more or less buried under their surface.

The cyst-walls admitted of division into several layers. Of these the outermost was composed of loose cellular tissue, beneath which was a denser layer made up of fibres, which, though interlaced, had on the whole a parallel arrangement; under this was a layer of elastic tissue, and innermost of all a coating of epithelium. The epithelium was everywhere of the tessellated kind, and at the polished parts the cells were round and regular, but at the dull parts the superficial layer was arranged irregularly, though round cells were regularly disposed beneath. On denuding the wart-like prominences of their epithelium, the subjacent surface exactly resembled that of the true skin, having well-developed papillæ, and the whole of the cyst-wall beneath the unpolished islets had a similar structure. The hairs growing here sprouted from a regular bulb, and there were sebaceous glands and perspiratory follicles in varying number. The quantity of hairs is accounted for by their being deciduous, though formed in the natural manner, and the fat is not secreted by the whole interior of the cyst, but by the sebaceous glands, just as the vernix caseosa is in the fœtus. The presence of teeth is explained by their being true products of dermoid tissue, so that wherever that tissue is found there always exists the possibility of teeth being developed; and their presence in the jaws is a sort of accident by no means essential to their formation.

Dr. Steinlin concludes that the development of the cyst is but a secondary occurrence; that the first step in these cases is the formation of a tissue exactly identical with the external skin, the accumulation of its secretions by degrees distending the investing membrane. The earliest appearance of one of these tumours is as a small, fleshy looking mass, of the size of a grain of linseed, in the situation of a Graafian follicle, and surrounded by a small sac. In the course of time this small body becomes detached from the sac except at one point, where its stem remains, and where vessels having a looped arrangement enter it. Next, a thin layer of fat is found between the small lump and the sac, and on careful examination of the former the sebaceous follicles are now seen developed. With the increase of their number the fat increases, and the sac becomes distended, while the perspiratory follicles modify by their secretion the contents of the sac.

If to this description one adds that the intimate relation between pus and fat globules may be taken as explaining the general presence of pus in fat cysts of any considerable size, I think that the descrip-

tion of this, as of the other forms of cystic ovarian tumour, may be regarded as complete, in so far at least as the practical object of these lectures is concerned.

Two points, however, still remain which require a brief notice: namely, the comparative frequency of disease of one or other, or of both ovaries, and the comparative frequency of the different varieties of ovarian disease.

With reference to the first of these questions, the general evidence of statistics, as the subjoined table shows, goes to prove the preponderating frequency of affection of the right ovary.

	Right Ovary.	Left Ovary.	Both Ovaries.	Total.
Cases collected by S. Kee[1]	50	35	8	93
" " Chéreau[2]	109	78	28	215
" observed by Scanzoni[3]	14	13	14	41
" " the Author	28	22	16	66
	201	148	66	415

This table, however, can be regarded only as a very rough approximation to the truth in this matter, since it is mainly deduced from observations made during the life of the patient, while it is often a matter of considerable difficulty to determine whether a tumour is formed by the right or by the left ovary; and harder still to decide that the disease is limited to one ovary, and that the organ on the opposite side is healthy. In two instances, indeed, in addition to those enumerated in the table, I found myself quite unable to determine which ovary occasioned the tumour, and very likely in some other cases the conclusion which I did come to was erroneous. This difficulty, too, arises not simply from the mesial position of the tumour at the time when the case comes under observation, and from the inattention of the patient to her own early symptoms, though that is very frequent, but also from the circumstance that the ligamentum ovarii becomes twisted occasionally as the organ increases in size, so that a tumour of the left ovary sometimes produces enlargement of the right rather than of the left half of the abdomen.

Observation after death, too, fails to bear out the alleged greater frequency of the disease on one side than on the other, while it shows that the affection tends far oftener than would appear from the former table to involve both ovaries. Scanzoni's figures were deduced from post-mortem examinations, and if to them be added 19 of my own, and 15 of Dr. R. Lee's cases,[4] a total is obtained of 75 cases, in 26 of which the disease occupied the right side, in 23 the left, and in 26 both ovaries. This result, too, tallies with that which we might reasonably anticipate beforehand, for to the best of my knowledge there

[1] On Tumours of the Uterus, etc., 8vo. London, 1847, p. 120.
[2] As quoted by Scanzoni, *op. cit.*, p. 365.
[3] Ibid.
[4] *On Ovarian and Uterine Diseases.* London, 1853.

is no ground for the special liability of one ovary, or for the special immunity from disease of the other.

Professor Scanzoni is, I believe, the only writer who has attempted any numerical estimate of the comparative frequency of the different varieties of cystic disease of the ovaries.[1] His 41 cases and my 19 yield the following results:—

Simple cysts	in 15 cases.
Fat cysts	" 1 case.
Compound cysts, and cysto-sarcomata	" 23 cases.
Colloid or alveolar tumours	" 19 "
Cancer with cyst-formation	" 2 "
Total	60

It must be reserved for the next lecture to consider what becomes of these tumours; to examine how nature endeavours, too often fruitlessly, to effect their cure; and how the disease tends too generally and too inevitably to increase, and, as it increases, to bring added suffering and to hasten the approach of death.

LECTURE XXV.

OVARIAN TUMOURS AND DROPSY.

General course of the affection; exceptional character of the cysts of the Wolffian bodies—their disposition to remain stationary. Occasional arrest of growth of simple cysts usually temporary—their complete removal very rare.

Cyst sometimes discharges its contents through Fallopian tube, vagina, intestine, externally, or into peritoneum.

Changes in cysts, their gradual softening. Inflammation of cysts. Disorder of health from pressure of cyst on viscera; cachexia attending the increase of cyst. Various modes of death.

Causes predisposing to ovarian dropsy—influence of age, marriage, and child-bearing. Alleged exciting causes of the disease.

The study of the anatomy of ovarian cysts and tumours, which occupied us at the last Lecture, has enabled us now to advance a step further in our investigations, and to inquire what is their *course*, and what their *tendency*, what *efforts nature makes to effect their cure, and what are the different ways in which they prove fatal?*

It has been already stated that practitioners, though ignorant of their real nature, were long familiar with the occasional presence of

[1] *Op. cit.*, p. 864.

thin-walled cysts between the folds of the broad ligament, which, unlike other cysts connected with the substance of the ovary, had no disposition to increase beyond comparatively small dimensions. Not unnaturally, however, they indulged the favourable anticipations which were justified only in the case of a peculiar and unfrequent affection, with reference also to a great number of simple ovarian cysts. Utterly unfounded expectations of the disease eventually becoming stationary have thus on several occasions within my own knowledge deterred patients from justly estimating their own condition and prospects, and from consenting while there was yet time to the adoption of any curative measures. It is therefore of importance to bear in mind that the only cysts concerning which the disposition to remain stationary can be predicated as their general characteristic are the cysts of the Wolffian bodies; and, further, that these cysts have scarcely ever been met with exceeding the size of an orange, while even such dimensions are unusual, and in by far the greater number of instances they reveal themselves by no symptoms during life, and present themselves to the anatomist far oftener than to the physician. One case, indeed, and but one, has come under my own notice, concerning which I could feel justified in assuming that the cyst was not ovarian, but was connected with the remains of the Wolffian body. The patient, who, when she first came under my notice, was fifty years old, has now for eight years been under my observation; and the tumour which was connected with the right uterine appendages continued during the whole time of the same dimensions, being rather smaller than the fœtal head until six months ago, when, without any symptom, it suddenly disappeared, its thin walls having doubtless given way, and its contents having escaped into the peritoneal cavity. The tumour was extremely movable, floating loosely just above the pelvic brim, but occasionally sinking down into its cavity, and then producing discomfort of various kinds, by its pressure on the parts situated there, and especially by the obstruction it offered to emptying the bladder, symptoms which with its disappearance have completely ceased. This, however, is in my experience a solitary instance of a cyst connected with the uterus remaining quite stationary at a small size for years; so that I fear we must regard the chances as being against the more hopeful view of the nature of any of these tumours, and must further look upon the mere fact of the cyst having attained a greater size than that of a large orange, or of the fœtal head, as decidedly negativing it. The arrest of the disease may indeed still be hoped for as a lucky accident; it can no longer be counted on as a probable occurrence.

I said that the *arrest of the disease* may in any case of simple ovarian cyst be looked for as a lucky accident; and, indeed, I do not know how more fitly to designate it, for the nice adjustment of the balance between exhalation and absorption depends on conditions which remedies cannot bring about, which diagnostic skill cannot even predicate. It is not in general while in the pelvic cavity that

this arrest occurs; for though the growth of the tumour may then be slow, it is while situated there liable to be pressed on, irritated, excited by the varying condition of the adjacent viscera. After it has risen above the pelvic brim this fortunate occurrence sometimes takes place, though it takes place but very rarely, for though the cyst is no longer irritated as it was before, its increase is not now restrained by unyielding boundaries, and hence it frequently enlarges with greater rapidity. As a general rule, the enlargement goes on, not continuously, indeed, but by fits and starts, till at length the size of the abdomen causes distress, and necessitates interference. The exception is met with in instances where the cyst having attained a size somewhat less than that of the adult head, begins, to the patient's surprise and pleasure, to diminish, becomes notably smaller than it once had been, though it scarcely ever entirely disappears, but remains for years, possibly even for the remainder of the patient's life, a source of apprehension and an occasion of some discomfort, but not of much actual suffering, or of serious injury to the health.

In March, 1853, I saw a single woman, aged 31, in whom the development of an ovarian cyst had succeeded to a heavy fall on the nates three years before. Her abdomen on admission measured thirty-seven and a half inches at the umbilicus, and its increase was alleged to have been going on with rapidity; and the patient was anxious even to undergo some risks for the chance of being cured of an ailment now threatening to become the source of much suffering. She was ordered to keep her bed for a few days, in order that a careful examination of her abdomen and of the relations of the tumour might be made. In a week the abdomen measured only thirty-five inches; and in another fortnight only thirty-four. I need hardly say that in these circumstances the patient was advised neither to be tapped nor to have any other operation attempted. She returned to the country, and to her occupation as a village schoolmistress. In April, 1855, her abdomen measured little more than thirty-five inches; and I am sure that I should have heard if it had subsequently increased.

To a slighter degree, and for a shorter time, the partial absorption of the contents of an ovarian cyst is by no means uncommon; and no one can have seen much of ovarian dropsy without having been struck by the different degrees of tension which the tumour at different times presents. Sometimes it is so tense and firm as to seem almost solid, and, indeed, if the growth be but small, this extreme tension of its walls may so obscure the sense of fluctuation as to lead the observer, unless very carefully on the watch, into error. At other times not only is fluctuation most distinct, but the cyst-wall is so flaccid that if the tumour is large it may not be very easy to distinguish between an encysted dropsy and ascites.[1]

[1] Cruveilhier, *Anatomie Pathol.*, vol iii. p. 400, speaks of a variety of ovarian cysts, as *kystes uniloculaires flasques*, and describes them as retaining a remarkable flaccidity

It is not easy to determine the cause of such fluctuations in the condition of the cyst. A connection may now and then be observed between the approach of a menstrual period and an enlargement and increased tension of the cyst, while it once more grows smaller, and its walls become flaccid as menstruation passes off. In the majority of cases, however, no approach to regular periodicity in these changes can be observed, though even when the disease goes on tolerably uninterruptedly from bad to worse, there are yet almost always seasons during which it remains stationary, followed by times of rapid increase. The increase of the tumour, too, sometimes takes place noticeably in the course of twelve or twenty-four hours; the suddenness of the enlargement showing it to be due to a rapid effusion into the cavity of the cyst, not to the comparatively slow process of growth.

If the contents of an ovarian cyst may then vary from time to time, there certainly can be no reason why in some instances the process of absorption may not go on so as to effect the entire removal of the fluid and the complete cure of the patient. Such an occurrence, however, appears to be of extreme rarity, and some most competent authorities have even discredited it altogether.[1] In one case I believe that I witnessed it in the person of a young married woman, who had vague symptoms of discomfort about her uterus for nine months, and had been aware of the existence of a tumour for four months before her admission into the hospital. The tumour, which was connected with the left ovary, was tapped per vaginam, and sixteen ounces of highly albuminous fluid were withdrawn. It was determined that so soon as the cyst had regained its former dimensions, tapping should be repeated, and a solution of iodine be injected, in order to prevent the reaccumulation of the fluid. On the forty-second day after the first tapping this operation was to have been done; but it then struck some who were present that the tumour had seemed larger a day or two previously than it was then. The operation was postponed; and day by day the tumour shrank, not suddenly as if from rupture of its walls, nor with any discharge per vaginam suggestive of a communication existing between it and the Fallopian tube, but by degrees, as if its contents were gradually absorbed. Fourteen days afterwards, or on the fifty-sixth day from the first tapping, all traces of the tumour had disappeared. Another case has come to my knowledge of the disappearance of an ovarian tumour in a lady from whom seven pints of deep amber-coloured

of their walls in spite even of having attained a very considerable size. He further gives the details of a case in which these characters led two very distinguished physicians into the error of mistaking an ovarian dropsy for ascites. These flaccid cysts seem to cause comparatively small discomfort, to interfere but little with the general health, and to give rise to no symptoms such as to justify tapping. One such case I saw quite recently, in which it was not till after I had carefully examined the abdomen several times that I came to the decision that the fluid was encysted.

[1] Kiwisch and Scanzoni, two of the most recent, and of the highest authorities, most completely discredit its occurrence.

glutinous fluid were removed by tapping five weeks before the birth of her fourth child. Her labour was quite natural, but nineteen days afterwards, while seated on the sofa, she was attacked by sudden violent pain, with great faintness, and symptoms of rupture of the cyst followed by those of general peritonitis, for which she was treated very actively. Her abdomen at this time became swollen to double the size which it had presented when she was tapped. In the course of two months, however, this general enlargement subsided, disclosing a distinct elastic tumour occupying the hypogastric and right iliac regions. This next shrank gradually, so that at the end of nine months from the patient's confinement I could scarcely find any trace of it; and after a natural pregnancy she was confined of her fifth child, two years and a month after her former labour. On this occasion, the medical man who attended her, and who had watched her through all her previous illness, searched in vain for any traces of the tumour. In this second case there can be little doubt but that some connection existed between the attack of peritoneal inflammation in which the cyst itself was involved and the subsequent complete disappearance of the tumour. In the former instance, however, no symptom whatever attended the removal of the fluid; but though we do not understand the means by which it was effected, still the removal of the fluid is scarcely more inexplicable than the permanent cure which occasionally follows a single tapping, in cases where yet neither constitutional disturbance nor local suffering has followed the operation.[1]

The simple absorption of their contents is, indeed, the rarest of all the changes which take place in ovarian cysts. A much more common occurrence, and one by which their increase is for a time arrested, and their complete cure now and then effected, is their rupture, and the escape of their contents through various channels, the empty cyst ceasing, perhaps for a time, perhaps for ever, to perform its secretory function.

An *ovarian cyst* may *empty itself through the Fallopian tube*, the most fortunate, but by no means the most frequent, outlet for its contents; through the vagina, or through the intestine; or it may burst into the cavity of the peritoneum, or, forming adhesions with the abdominal walls, may pour out its contents at or near the umbilicus.

Each of these outlets needs a moment's notice; and, first, of that which is formed by the dilated Fallopian tube. Cases are sometimes met with in which, on examination of the body after death, the fimbriated extremity of the Fallopian tube is found adherent to an ovarian cyst, and expanded over it, while the tube itself is distended at its abdominal extremity, and presents all the characters of dropsy. On pressure upon the cyst, however, it is found that the fluid can

[1] A case of gradual disappearance of a well-marked ovarian cyst is related by Dr. Huss in *Monatschrift f. Geburtskunde*, Feb. 1857, vol. ix. p. 143.

pass readily from it into the tube, while, in most instances, and quite contrary to what might be expected, no mechanical obstacle is found closing the uterine end of the canal. The communication between the cyst and the tube is, however, free enough to admit the point of the index finger, a slight contraction marking its situation, and the longitudinal arrangement of the fibres indicating the commencement of the tube. The mere tonicity of the parts prevents the ready escape of the fluid at the uterine end of the tube. It collects in the canal, distending by degrees its abdominal extremity, and at length escaping through the womb, only when it has dilated the whole length of the tube, and overcome the natural resistance of its walls. A gush of fluid then takes place by the vagina, and the cyst is partly or even completely emptied, though such discharges do not in general effect a permanent cure, but the cyst refills, the tube becomes redistended, and the same process may be several times repeated. Such, at least, appears to be the opinion of M. Adolphe Richard,[1] who has described these cases very minutely, and who suggests, and with much plausibility, that many of the instances of alleged communication of ovarian cysts with the vagina were in reality instances of their opening into the Fallopian tube.

No opportunity of studying this process has presented itself to me after death, and, indeed, I am disposed to believe that it is a rare occurrence, since I have met with but one instance, out of the total of sixty-eight cases on which my remarks are founded, where the cyst appeared to empty itself in this manner. The patient, in that case, was a married woman, thirty-six years of age, whose abdomen first began to enlarge six years before her admission into the hospital. After having acquired a considerable size, the swelling suddenly disappeared, during a profuse watery discharge from the vagina; and the same occurrence took place afterwards eight or ten times. The fluid thus discharged was colourless; it escaped with a gush, amounted sometimes to several quarts, and the suddenness of its flow not unfrequently produced a faintness or actual syncope. Sometimes it escaped during the effort at defecation, but most commonly its flow was independent of any such exciting cause. I myself ascertained the presence of a distinctly fluctuating tumour, its sudden disappearance, fourteen days afterwards, and then the slow return of abdominal enlargement during the ensuing three weeks, when I lost sight of the patient.

The symptoms, however, were so characteristic, that I imagine one is perfectly justified in assuming the case to have been one of com-

[1] *Mémoires de la Société de Chirurgie*, vol. iii., 1853, p. 121. The absence of any evidence of past inflammatory action about the communication between the ovary and the tube, leads M. Richard to suppose that the origin of the condition dates back to a bygone menstrual period; that the Graafian vesicle, having discharged its ovule, did not collapse and wither, as it usually does, but, still retaining its communication with the tube, enlarged, became dropsical, and thus formed what he proposes to term a *tubo-ovarian cyst.*

munication of the cyst with the Fallopian tube. The uterus itself was perfectly movable, rather high up in the pelvis, no aperture existed in the vagina, nor, indeed, was the tumour to be distinctly felt through it; but it evidently floated in the abdominal cavity loosely tethered, as an unadherent ovarian tumour often is, by the elongated uterine appendages. How the communication is brought about between the ovary and the tube in these cases is uncertain; but it has been suggested with considerable plausibility that the process is one of a physiological rather than of a pathological character. In the other instances, however, inflammation, the formation of adhesions, and the absorption of the wall both of the cyst and of the adjacent viscus, are all implied in the escape of the fluid.

Many instances are on record[1] of a *cyst emptying itself per vaginam;* and this, too, even if we exclude those concerning which it is doubtful whether they do not more properly belong to the class described by M. Richard. Far more frequent, however, is the formation of a *communication* between the *cyst* and the *intestinal canal.* Generally, though not invariably, this communication takes place quite low down, and seems to be due to the pressure of that portion of the cyst which occupies the pelvic cavity upon the rectum, and the consequent absorption of the walls, both of the intestine and of the tumour. Not long since a communication took place in this manner, in the case of a patient of my own, between a large sac which formed part of a compound ovarian cyst and the rectum a little above the internal sphincter. Through the opening, which was of the size of a crown-piece, many quarts of a dark grumous fluid escaped during the last few days of the patient's life, with much alleviation of her sufferings, and with complete removal of the obstinate constipation that for a long time previously had been maintained by the mechanical pressure of the tumour on the intestine. The observation of this and of similar cases suggests the expediency of attempting to tap the tumour per vaginam whenever serious inconvenience is produced by its pressure upon the intestine, and paracentesis through the abdominal walls has either proved unsuccessful, or has afforded but partial relief. In the instance just referred to very little fluid was obtained by puncture of the abdomen, while, had a trocar been introduced into that part of the growth which projected into the pelvis, the principal cyst would have been emptied, and the patient's sufferings, which nature mitigated but too tardily, would long before have been assuaged.

Sometimes, however, communications form between an ovarian cyst and the intestinal canal in other situations, and are not attributable to the direct effects of pressure, though their real cause is very obscure. Thus, in the museum of Guy's Hospital there is a preparation of an ovarian cyst, at whose upper part an opening has formed

[1] Meissner's *Frauenkrankheiten*, vol. ii. p. 318, contains numerous references illustrative of this subject.

into the bowel. A patient of mine, too, in whom an ovarian cyst had developed itself with much rapidity in the course of two months, and who experienced much abdominal pain and tenderness, suddenly felt a sensation as if something had given way within her, and was immediately attacked by violent diarrhœa. In the course of ten hours the bowels were purged twenty times; the evacuations not being feculent, but consisting of a dark bloody fluid, which, under the microscope, was found to contain many blood-globules, and also many pus-corpuscles, as well as some crystals of cholesterine. The tumour was now found to have completely disappeared, and five weeks afterwards there was still no trace of it discoverable, though I am unable to say whether the cure was permanent.

Openings in the *abdominal parietes* are another channel through which ovarian tumours sometimes empty themselves. In one instance which I saw the cyst had dilated the umbilical ring, and projected, like a hernia covered by the thinned integument, some inches beyond the surrounding abdominal walls. In this thin integument an opening formed, through which on several occasions the cyst partially discharged itself. It is, however, more usual for the opening to take place below the navel, adhesions first forming between the cyst and the integuments. The opening sometimes continues long fistulous, though I have known it to close, and discharges from it permanently to cease without any special change taking place either in the condition of the tumour or of its contents. To the best of my knowledge a permanent cure less often follows the discharge of the contents of the cyst through the abdominal walls than their escape through some other channel.

The *rupture of an ovarian cyst into the peritoneal cavity* is, however, an accident of far more frequent occurrence than the discharge of its contents through any other channel, and was met with in 6 out of 68 cases of which I have a record. In one of these cases, a fall on the abdomen produced the bursting of the cyst, but in by far the greater number of instances on record its rupture has been independent of external violence. Sometimes the delicate cyst gives way from over distension, and this is probably the explanation of its sudden disappearance in the case which I referred to some time ago, as being probably an instance of a tumour connected with the remains of the Wolffian body; as also in another instance where a tumour half the size of the adult head suddenly disappeared, the same accident having occurred to the patient eighteen months before. In other cases inflammation and softening of the cyst-wall have preceded its rupture; and an examination after death discovers it red and congested, and the edges of the rent soft, irregular, and jagged. Sometimes the sac, once ruptured, does not refill, and a permanent cure is obtained, though usually at the expense of an attack of peritonitis; and I much fear that there is no direct or constant relation between the severity of the inflammation which follows the rupture of the cyst and the non-accumulation of the fluid after-

wards. One of my cases was that of a young lady, aged twenty-six, in whom an ovarian cyst gave way twice, and whose life on each occasion was in the greatest jeopardy, but who did not gain thereby the slightest delay in the rapidity with which the fluid re-collected. In two other cases of mine the rupture of the cyst proved fatal; the wall having in both instances given way at the posterior part of the tumour, where it was closely pressed against the pelvic brim, and extensive ecchymosis around the rent attested in one case the mechanical obstacle which had existed to the course of the blood in that situation. In the other case decomposition was too far advanced to allow of any observation as to the state of the cyst-wall.

The mortality of 2 cases out of 6 agrees very nearly with that which Dr. Tilt[1] deduces from a collection of 34 cases, in 10 of which death followed the rupture of the cyst. In 20 of the cases, however, the fluid did not re-collect, but I feel very doubtful whether a more numerous collection of facts would be found to bear out the conclusion that in 2 cases out of 3 the escape of the cyst contents into the abdomen is followed by the permanent cure of the patient.[2]

For the very various results that have followed the escape of the fluid of ovarian dropsy into the abdomen an explanation has been suggested by Dr. Simpson,[3] and adopted by Scanzoni.[4] It is supposed that the different characters of the fluid in the cyst determine the occurrence or non-occurrence of peritonitis; that the pure serum gives rise to no ill effects, while dangerous peritonitis follows the escape of fluid mixed with blood or with the products of inflammation. Still, this is only a hypothesis, probable, indeed, but not proven, and wholly insufficient to form the basis of any therapeutical proceedings.

Other *changes* take place *in ovarian cysts*, tending for the most part less to the cure than to the aggravation of the evil. Some of these changes seem incidental to the process of growth, as for instance the removal of the septa between the cysts, the gradual liquefaction of the solid matter, and the consequent conversion of a firm into a distinctly fluctuating tumour. This alteration is in one sense of bad omen, since I believe its occurrence is generally contemporary with the more rapid increase of the growth; on the other hand, however, it often places within our reach the means of mitigating the patient's sufferings by tapping, which in the earlier stages of the affection was impracticable. With the rapid growth of the tumour there is in all cases of compound ovarian cysts a corresponding increase in the vessels which supply it, and a consequently greater disposition to hemorrhage into its cavity. Sometimes, indeed, the

[1] *Lancet*, Aug. 5, 1848, vol. ii. p. 146.

[2] In vol. v. p. 226, of *Transactions of Pathological Society*, a case is related by Dr. Bristowe of rupture of an ovarian cyst into the abdomen, the aperture remaining permanent, the cyst still continuing to secrete, and ascites resulting from the accumulation of the secretion within the peritoneal cavity.

[3] *Op. cit.*, vol. i. p. 247.

[4] *Op cit.*, p. 392.

admixture of blood with the fluid of the cyst is so considerable as no doubt to have had a large share in the production of that anæmia, and that extreme exhaustion of strength which are often observed in patients suffering from large ovarian tumours.

Of all the morbid processes, however, of which these growths are the seat, *inflammation* is the most common and the most important. Few cysts attain any considerable size without having been attacked by it, and this inflammation is of all the greater moment since it is seldom limited to the interior of the cyst, but generally affects its outer surface likewise, producing adhesions between it and adjacent organs, and thus forming great, often insuperable obstacles to the success of various operations which have been proposed for the cure of ovarian dropsy. In a practical point of view, too, this inflammation is the more important from being often unattended by local suffering, sometimes, indeed, accompanied by a comparatively small amount of constitutional disturbance, so that it is almost impossible to determine anything with certainty concerning its occurrence or non-occurrence from the patient's history. Of this no better proof can be given than is afforded by the observation of cases where on tapping a cyst, instead of the transparent serum which it was supposed to contain, a turbid fluid largely mingled with pus has been let out, or of other cases in which, the extirpation of the tumour having been resolved on, universal adhesions have been found connecting it with the viscera, and with the abdominal walls. In many instances the inflammation issues in the exudation of lymph as well as in the outpouring of pus, and the lining membrane of the cyst is found roughened and thickened by its deposit, which is sometimes so abundant that it may be stripped off just as may the false membrane deposited on an inflamed pleura. Multilocular cysts are, I think, more liable than simple cysts to this occurrence; and often, even where the different cavities intercommunicate, inflammation and the outpouring of lymph may be found in one cyst, and no trace of any such occurrence be observable in another immediately adjacent.

With the increase of the tumour, and the failure of the patient's powers, the liability to inflammation of the cyst appears to increase also, and its occurrence contributes to hasten the fatal event. It is but seldom, however, except after tapping, or some other operation, that cyst-inflammation of itself proves fatal; but many causes in general combine by slow degrees to destroy the patient.

First among these causes may be mentioned the *disorder* of the *functions of other viscera*, as the tumour by its increasing size presses upon and disturbs them. The pregnant uterus, as you know, even when it has attained its largest size, interferes but little with the functions of other organs. The intestines find room on either side of it, while the direction of its fundus forwards in the axis of the pelvic brim obviates all interference with the descent of the diaphragm, and usually prevents all disturbance of the stomach or liver.

The ovarian tumour, on the other hand, as it increases in size, so completely fills the lateral regions as to leave no room for the intestines except behind and above it, where they are often compressed into a very scanty space. No such law governing the direction taken by the tumour as regulates the enlargement of the pregnant womb, the descent of the diaphragm becomes earlier impeded, and respiration is thereby rendered laboured. The liver is at the same time pressed on and disturbed in the performance of its functions, and this just at a time when the active discharge of its duties is rendered all the more necessary by the congestion of the abdominal vessels which the pressure of the tumour occasions, and the scanty urinary secretion that is its attendant and its consequence.[1]

In a great proportion of cases this abdominal congestion relieves itself by the effusion of fluid into the peritoneum, and in some instances the amount of this effusion is very considerable; enlargement of the superficial veins attests the obstruction to the circulation, and the ascites becomes the occasion of more distress than the original disease to which it is superadded. Œdema of the lower extremities is less frequent than in pregnancy, probably because the peculiar state of the blood which favours its occurrence in the latter condition is absent. Where it exists it is often confined to one limb, being the direct result of mechanical pressure. This is not invariably the case, however, for ovarian dropsy is sometimes associated with albuminous urine, whether as the result of its accidental complication with granular disease of the kidneys, or of congestion of those organs produced by the pressure of the tumour, I do not feel myself able to determine.

While the enlarging tumour thus tends to trouble all the functions of the body, the patient's strength is further exhausted by the determination to the growth of a large quantity of that blood which ought to minister to the general nutrition of the body. Nor is this all; but a state of cachexia, the consequence and the evidence of the deteriorated condition of the blood, occurs frequently in the course of this, as of other forms of malignant disease, with which, if not actually identical, many tumours of the ovary are at any rate closely allied. In the simple ovarian cysts it is true that this latter source of suffering and of peril does not exist, and the prospects of the patient are accordingly far less dark than in other varieties of the disease. These simple cysts, too, as has already been mentioned, now and then remain stationary for many years, life being not at all shortened, scarcely even embittered by their presence. Such, however, are exceptional cases, and exceptions of but rare occurrence; for generally the accumulation of fluid even in a simple cyst sooner or later necessitates the performance of tapping, while, when

[1] Two drawings given by Dr. Bright, *loc. cit.*, pl. vii., ix., are extremely instructive illustrations of the manner in which tumours of the ovary press on and displace the viscera.

once done, its repetition is speedily required, and the patient is thus worn out by the frequent collection and frequent evacuation of the contents of the cyst. A certain risk, too, of cyst-inflammation accompanies every tapping, and is, when it occurs, a hazard of a very serious kind. The liability to its occurrence appears to be greatest either after the first performance of the operation, or else in the case of patients who have been exhausted by the long continuance of the disease, and the frequent repetition of the tapping. In much debilitated patients, especially in those who are suffering from malignant or quasi-malignant forms of ovarian disease, the spontaneous supervention of cyst-inflammation, or of a low form of peritonitis, is of no very rare occurrence, and not unfrequently puts out the life whose flame had burnt but flickeringly for weeks or months before.

We have now completed our examination of the structure of cystic tumours of the ovary, and have also studied the different modes whereby in some rare instances nature effects their cure, as well as those far more numerous ways by which the patient is usually conducted from bad to worse, and the fatal issue is but too surely brought about. Before we proceed to the investigation of the symptoms of these diseases, and to the inquiry as to what either medicine or surgery can do for their alleviation or their cure, there are still some questions concerning their causes, and the circumstances that favour their occurrence to which we must endeavour to furnish a reply.

It may be asked, when do these affections commonly occur; what is the influence of the exercise of the sexual functions upon their development; whether does sterility or fecundity predispose to them; and does a disordered state of the uterine health commonly precede them; or are they as likely to befall the person whose health has been previously good as her who for years has been a valetudinarian? To these inquiries as to the *causes* of ovarian dropsy, it would seem that very definite and conclusive answers might be given, and yet, strangely enough, the replies are most contradictory. The young and the aged, the single and the married, the sterile and the mother of many children, the robust and she whose uterine functions have been performed with pain and difficulty, have all in turn been asserted to be specially liable to the occurrence of ovarian disease.

With reference to the *age* of patients in whom the disease occurs, there seems to be no period of life that enjoys an absolute immunity from it; though it is of extreme rarity before puberty, and its commencement after the cessation of the menstrual function, if not equally uncommon, is at least very unusual. Professor Kiwisch mentions[1] a preparation of cystic disease of the ovary in a child only a year old in the museum at Prague, and refers to a similar one at Würzburg, in which the affection involves both ovaries in the fœtus. He states, however, that fourteen years is the earliest age

[1] *Op. cit.*, vol. ii. p. 79, § 36.

at which he himself has observed it; and a girl died recently in St. Bartholomew's Hospital, under the care of Dr. Burrows, from malignant disease of the ovaries, with cyst-formation in their substance, who had not attained her fifteenth year. One of my patients died of rupture of the cyst when in her sixteenth year, and the enlargement of her abdomen, which was very considerable at her death, was alleged to have been first observed when she was thirteen years old, menstruation not having occurred till the age of fourteen years and six months. In another of my patients, the disease began in her seventeenth year, menstruation having occurred once at the age of fifteen and a half; but it did not reappear till after she was tapped at the age of eighteen. These, however, are exceptional occurrences, and in nearly half of all cases of ovarian dropsy the commencement of the disease dates from between the ages of thirty and forty.

This result at least is what I arrive at from a comparison of 68 cases of my own with 97 of Scanzoni's,[1] which are thrown into the following table. I employ Scanzoni's figures in preference to those of any other writer, because he alone has taken as its basis the ages at which the first symptoms of the disease appeared, while many writers have constructed their tables according to the age at which the patients first came under their observation.

Table showing the age at which, in 165 *Women, the symptoms of Ovarian Dropsy were first perceived.*

Author's cases.	Scanzoni's cases.	Total.	Age at first symptoms.	Proportion per cent. at different ages.
14	5	19	from 13 to 25 years	11.5
13	12	25	" 25 " 30 "	15.1
14	21	35	" 30 " 35 "	21.2
14	32	46	" 35 " 40 "	27.8
7	14	21	" 40 " 45 "	12.1
4	6	10	" 45 " 50 "	6.0
2	2	4	" 50 " 55 "	2.4
0	5	5	" 55 " 60 "	3.0
68	97	165		

The next question concerns the influence of the *exercise of the sexual functions* in predisposing to the disease; an influence which you may remember was very decided in the case of uterine cancer, since only 3 out of 134 patients affected by it were single women, and only 8 out of the 131 who had been married were sterile. Of 68 cases of ovarian disease, however, 19 occurred in single women, 10 in widows, and 39 in the married; a statement which refers to their condition at the time when the disease commenced. This proportion is not very materially altered by the employment of higher numbers,

[1] *Op. cit.*, p. 365.

since, adding to my own cases those collected by Mr. Lee and those observed by Scanzoni,[1] we obtain the following results:—

Single women . . .	89,	or 29.5 per cent.
Widows	28,	" 9.3 "
Married women . . .	184,	" 61.1 "
	301	

or, in other words, considerably more than a third of all cases of ovarian disease began at a time when the sexual functions were not in active exercise; and more than a fourth occurred in women in whom those functions had never been exerted at all.

That the exercise of the sexual functions does not predispose to ovarian disease, but that, on the contrary, some connection subsists between their imperfect performance and the development of this affection, is evident from the low rate of fecundity among married women in whom ovarian dropsy occurs. Of 49 of my patients, either married or widows, there were 16 sterile; and of Scanzoni's 52 cases, 18 who had likewise never been pregnant; or, in other words, in 34 of 101 women who became the subjects of ovarian dropsy, marriage had never been followed by conception, while among my patients generally at St. Bartholomew's Hospital the proportion of sterile marriages was only 11.7 per cent. Even those marriages, too, that were followed by conception, showed less than the average fecundity; for of my 49 cases, the 33 in which the women were not sterile yielded only 105 pregnancies; of these, 83 terminated at the full time, 22 ended in miscarriage. These numbers yield an average of 3.1 pregnancies to each marriage, or less than half the number which occurred in persons in whom cancer of the womb took place. It may, perhaps, as well be added that in 13 of the total 33 cases pregnancy occurred but once, and terminated in 3 instances prematurely, in the other 10 at the full period of gestation.

One question still requires an answer, namely, what connection, if any, subsists between the ordinary *state of a patient's uterine health* and the subsequent development of ovarian disease? Now nothing can seem more probable than that she who has menstruated irregularly, painfully, or scantily, shall be more liable to suffer afterwards from disease of the ovaries than the person whose menstruation has always gone on quite regularly. This, too, appears, from Scanzoni's statement, really to be the case; though my own observations do not corroborate his assertion, and probably neither his facts nor mine are sufficiently numerous to decide the question.

Of my own 68 cases, there were 54 in which the ordinary uterine health was quite good; 3 had had puerperal inflammation, but had quite recovered from its effects; 1 was still weak from hemorrhage after delivery; in 5 menstruation was always painful; in 3 men-

[1] *Op. cit.*, p. 365. I have included in his list of married women, seven, who, though single, had given birth to one or more children.

struation was always scanty; 1 was chlorotic, and had bad uterine health in all respects; 1 had suffered for years from great hypertrophy of the neck of the womb, and much consequent discomfort.

On the other hand, Scanzoni says that there were but 20 of his 57 cases in which menstruation was always healthy; while 19 patients had suffered more or less from chlorosis, 12 from dysmenorrhœa, 5 had always menstruated very profusely, and 1 patient, in whom ovarian disease came on in her forty-first year, had never menstruated at all. Be the truth concerning this matter what it may, I cannot but think that Scanzoni's figures overstate the frequency of menstrual disorder, as a precursor of ovarian disease, as much as mine perhaps err on the opposite side.

We find that in the case of most diseases our patients like to assign some *cause* for the commencement of their ailment, a cause often indeed quite fanciful, sometimes absurd. It is so in the case of ovarian diseases, while, if all mere phantasies are rejected, the instances will turn out to be comparatively few and exceptional in which any plausible ground can be assigned for the beginning of the affection.[1] In 21 of Scanzoni's 97 cases, and in 16 of my 68, or in 37 out of 165 instances, the following were with some probability alleged as the exciting causes of ovarian dropsy:—

Began within a year after marriage . . .	in	6
Came on during pregnancy	"	2
Followed not long after delivery	"	14
Succeeded to abortion	"	4
" metritis from cold	"	3
" suppressed menses from cold .	"	2
" violent blows on the pelvis . .	"	2
" strains, or over-exertion . . .	"	3
Occurred simultaneously with ascites and anasarca from exposure to cold	"	1
		37

From all these facts, then, we may conclude that the immediately exciting cause of ovarian dropsy, when any cause can be assigned for it, is usually connected with some disorder of the uterine functions, or with the recent excitement of their highest forms of activity. Nevertheless, too wide an inference must not be drawn from this fact, since in the great majority of instances the disease comes on independently of any cause to which it can be reasonably attributed; while further, it occurs in the unmarried oftener than most other organic diseases of the sexual organs; and the married who suffer from it are remarkable for their low rate of fecundity, and for the frequency among them of absolute sterility.

[1] Of 36 instances collected by Mr. Lee, *op. cit.*, p. 118, there were 28 in which the alleged causes had reference to the uterine functions, being in 5 marriage, in 9 labour, in 2 abortion, in 7 sudden suppression of the menses, in 2 cessation of menstruation, and in 3 irregularity of its performance.

In the next Lecture we shall leave these incomplete and inconclusive details for the more important practical inquiry into the symptoms and diagnosis of tumours of the ovary.

LECTURE XXVI.

OVARIAN TUMOURS AND DROPSY.

SYMPTOMS OF THE DISEASE occasionally absent in early stage—generally referable to five heads—of functional disorder of ovaries, pain, the effects of pressure, cachectic symptoms, and the symptoms consequent on interference.

DIAGNOSIS, its difficulties—diagnosis from inflammation of broad ligament and its effects, from fibrous tumour of uterus, misplacements of uterus, ascites, distension of bladder, pregnancy, tumours of spleen or liver, &c.

Note on FLOATING TUMOURS OF THE ABDOMEN.

MANY uterine ailments in their early stage present a puzzling resemblance to each other. Pain and menstrual disorder are common to most, and accompany as well the slight as the more serious affections, while it is often not until after some time that the distinctive features of the disease show themselves, and enable us to determine its nature, and to estimate its importance.

This is especially true with reference to ovarian disease, which at its onset commonly attracts but little notice, owing to the vagueness of its early *symptoms;* while not unfrequently, just as is the case with fibrous tumours of the uterus, its existence is not suspected till accident all at once reveals the presence of a growth of considerable size.

On a comparison of the 68 cases on which these observations are chiefly founded, it appears that the first symptom of ovarian disease was—

Suppression of the menses	6 cases
Irregular menstruation	4 "
Pain in the abdomen, more or less distinctly referred to the side where the disease began .	24 "
Suppression of urine, or difficult micturition .	6 "
The unexpected discovery of a tumour . .	28 "
	68

The want of attention to their own condition, implied in the very considerable size to which abdominal tumours sometimes attain before they attract the notice of patients, is so remarkable as to be scarcely credible if it were not of every-day occurrence. Not very

long since I saw a young lady in whom an ovarian cyst of the size of the adult head was only accidentally discovered in consequence of her suffering from a severe attack of abdominal pain while staying in the house of a medical man. If tumours so large can escape notice, it is less to be wondered at that those of smaller size should frequently be found out only when they become the seat of pain, or when they cause inconvenience by pressure on surrounding viscera.

It is not easy to say on what the frequent absence of symptoms in the earlier stage of ovarian dropsy depends. The immunity from suffering then is also far from constant, and in many instances much more pain and discomfort are experienced while the enlarged ovary still remains within the pelvic cavity, than are felt subsequently, or at least than are experienced till its size begins to interfere with the functions of the abdominal viscera. While in the pelvis the large ovary presses on the rectum, the uterus, and the bladder, and maintains a constant congestion of the pelvic vessels, all of which inconveniences are diminished, or completely removed when once it rises higher, and floats as it were loosely tethered by the ovarian ligament. When pains are experienced, too, they generally tell plainly of some cause seated within the pelvis. They are usually of a throbbing or burning character, referred chiefly to one or other iliac region, and are liable, like all ovarian pains, to exacerbation in paroxysms. More frequently, too, in this affection than in any form of uterine disease, pain is experienced extending down the leg of the affected side, being sometimes a mere numbness or sense of weariness, aggravated, however, and rendered positive suffering by walking or exercise; at other times it is severe and neuralgic in character. Besides this, too, painful defecation and micturition, especially the latter, are frequent; and occasionally the necessity for the introduction of the catheter is an early symptom of the disease; though while the dysuria often persists for a considerable time, retention of urine is a rare accident, and may even not occur a second time.

Though generally more severe than the same class of symptoms when they accompany fibrous tumours of the uterus, they are at the same time usually of shorter duration, since an ovarian cyst tends more certainly and at an earlier period to rise out of the pelvic cavity than does the fibrous tumour whose growth is slower, and whose close connection with the womb confines it longer to its original position.

My own observations do not show such frequent disorders of menstruation as might be expected either among the precursors of ovarian disease or among its earlier symptoms. Few, however, indeed, are the cases in which the disease runs to its fatal termination without the uterine functions being altogether deranged. I have not the data to show the influence of the disease from its commencement to its close in this respect. The following table represents the state of 68 patients, in all of whom the disease was fully established; but the majority were only a few weeks or months under observation.

In 3 cases menstruation had ceased before the disease began.
" 2 " disease began during pregnancy.
" 26 " menstruation had continued quite undisturbed.
In the remaining 39

Menstruation was	painful	in	1	
"	" profuse	"	5	
"	" anticipating	"	4	
"	" irregular	"	7;	in 2 was the first symptom.
"	" postponing	"	3;	" 1 was the first symptom.
"	" scanty	"	5	
"	" suppressed	"	14;	" 6 was the first symptom.
			39	

The general tendency of the disease, then, is to impair the activity of the ovarian functions, no doubt by the disorganization of their tissue. Hence the persistence of menstruation is always a favourable sign in cases of ovarian dropsy, warranting the hope that the disease is simple in kind, and that one ovary only is involved. Complete amenorrhœa, however, is more to be dreaded as an unfavourable sign than is even tolerably regular menstruation to be hailed as evidence of the simpler forms of disease, or of its being limited to one side.

It is not possible to give any general description of the symptoms which attend the later stages of ovarian dropsy. They are modified by very many causes, and differ according to the nature of the tumour, the rate of its increase, the age of the patient, and even her civil state, and general condition. They may, however, be referred to some of the five following heads, which have already been briefly touched upon when I was endeavouring in the last lecture to point out the various modes in which the fatal issue of ovarian dropsy is prepared for or actually brought about.

1st. There are the various evidences of derangement of the function of the ovaries, showing themselves in different forms of menstrual disorder, of which the irregularity, or the total suppression of the discharge are the most common; its over-frequent, or too profuse occurrence are the rarest. Menorrhagia, however, does now and then for a season accompany ovarian dropsy, so that we cannot place unqualified reliance on the state of the menstrual function as enabling us to discriminate between uterine and ovarian tumours.

2d. Pain and other symptoms are experienced indicative of changes in the tumour itself. In simple cysts, the degree of fulness and tension of the cyst seems in great measure to determine the presence or absence of pain. Variations in this respect often take place with great rapidity, and increased pain will be found almost invariably associated with increased tension, and an abatement of suffering with a flaccid state of the cyst. The occurrence of actual inflammation is almost always accompanied with tenderness of the

tumour, though, unless the peritoneal surface is affected, there is not usually much pain except on pressure. Vague constitutional disturbance usually attends this process, and though it is seldom very well marked, yet indefinite febrile attacks, shivering, loss of flesh, and hectic, may generally be regarded as indicative of this occurrence, and the more certainly provided the abdominal tumour is found to be tender on pressure. The malignant forms of ovarian tumour are often associated with pain during their growth quite independently of tension of their walls, or of any attack of inflammation. This, however, is by no means constant, and no inference as to the simple character of the disease can be drawn from the painlessness of its development.

3d. With the increase of the growth various disorders are produced by its pressure on the different viscera, and a class of symptoms appear, whose causes I dwelt on fully in the course of the last lecture.

Difficult breathing, impaired digestion, obstinate constipation, frequent and painful micturition, diminished secretion of urine and the effusion of fluid into the abdominal cavity, are but so may different results of this mechanical pressure. The difficulty in micturition, however, that occurs in the more advanced stage of the disease, is produced in a different manner from that which accompanies its commencement. While the tumour is still within the pelvic cavity, it interferes with micturition by pressing directly against the bladder; afterwards, as it rises out of the pelvis, it drags the uterus and bladder upwards, and thus interferes with the function of the latter organ, while the presence of a portion of the outgrowth behind the bladder in most cases prevents its distension in the antero-posterior direction. Scanzoni mentions also another occasional result of the pressure of the tumour on the under part of the bladder.[1] He states that it sometimes prevents the passage of the urine from the ureters, and thus produces great distension both of them and of the pelvis of the kidneys, and in illustration of this relates the case of a "patient who was tapped twenty-one times in the course of three years, which operation during the last year of her life was rendered necessary chiefly by the circumstance that the rapid accumulation of fluid in the tumour was always accompanied by complete retention of urine, which could not be relieved by the catheter, since the pressure of the tumour prevented the escape of the urine from the ureters into the bladder. For the first few days after each tapping the function of the bladder was undisturbed, but by degrees the flow of urine became more and more scanty, and in the course of five or six weeks complete retention of urine was once more produced. On examination of the body after death, a cysto-sarcomatous tumour was discovered, twice the size of the adult head, the lower, solid part of which pressed on the neck of the bladder,

[1] *Op. cit.*, p. 370.

and had produced, by the obstacle to the outflow of the urine, so great a dilatation of both ureters that the right was two inches, the left an inch and a half in diameter."

The pressure on the stomach sometimes causes a serious impediment to the patient's taking food, since not only does the organ become unable to retain more than extremely small quantities at a time, but in some instances, obstinate vomiting occurs, which no medicine can in the least degree relieve, and which is arrested only by tapping the cyst, and thus removing the pressure.

Still more distressing symptoms sometimes follow the compression of the rectum. Not only is most obstinate constipation thus induced, but even the escape of flatus is in some instances prevented; the whole colon becomes distended by it to the thickness of the arm; and every now and then violent attacks of colic pains come on, during which the movements of the bowels are distinctly visible through the thinned abdominal parietes, and, as in ileus, or in strangulated hernia, stercoraceous vomiting adds from time to time to the patient's sufferings.

4th. To this class belong a large array of symptoms of the cachectic kind, due, in some instances to the nature of the disease of the ovaries; in others to the mere diversion to the tumour of a large quantity of blood, which ought to minister to the general necessities of the body. They are symptoms of the same kind as we see towards the close of every lingering disease, betokening the gradual failure first of one power, then of another; the flickering of the taper, which, as all can see, must soon go out. The appetite becomes more and more capricious, and, at last, no ingenuity of culinary skill can tempt it, while digestion fails even more rapidly, and the wasting body tells but too plainly how the little food nourishes still less and less. The pulse grows feebler, and the strength diminishes every day; and one by one each customary exertion is abandoned; at first, the efforts made for the sake of the change which the sick so crave for are given up; then those for cleanliness; and lastly, those for comfort; till, at length, one position is maintained all day long, in spite of the cracking of the tender skin, it sufficing for the patient if in that respiration can go on quietly, and she can suffer undisturbed. Weariness drives away sleep, or sleep brings no refreshing. The mind alone, amid the general decay, remains undisturbed; but it is not cheered by those illusory hopes which gild, though with a false brightness, the decline of the consumptive; for, step by step, death is felt to be advancing; the patient watches his approach as keenly as we, often with acuter perception of his nearness. We come to the sick chamber, day by day, to be idle spectators of a sad ceremony, and leave it, humbled by the consciousness of the narrow limits which circumscribe the resources of our art.

5th. May here be reckoned all those incidents which are inseparable from every attempt at alleviation or at cure. The exhaustion which follows after repeated tappings, the cyst-inflammation which

sometimes succeeds to its first performance, the hemorrhage from vessels divided in the extirpation of the tumour, or the more frequent, and, therefore, more serious attacks of peritonitis, that are induced even by *attempts* at its removal, all belong to this category. Their study, however, will find its fittest place when we come to consider the treatment of the different forms of the disease, and the comparative dangers either of letting it alone, or of endeavouring, by one or other of the numerous means which have been devised, either to delay its progress, to mitigate its evils, or to accomplish its entire removal.

But before we pass to this subject, there comes the inquiry as to the *diagnosis* of ovarian tumours; an inquiry, the importance of which it is impossible to overrate, while, though sometimes attended by no difficulty, it is at others exceedingly obscure, and calls for large experience and well-schooled observation to return a correct reply.

The difficulties which we encounter in the diagnosis of tumours of the ovary vary according to the size of the growth, and the situation that it occupies. So long as it remains principally within the cavity of the pelvis, it for the most part yields but an indistinct sense of fluctuation, even though its contents should be entirely fluid, and it may then be hard to distinguish between it and the results of inflammation of the broad ligament, or between it and a fibrous tumour of the womb, or the retroflected uterus itself, especially if the organ is enlarged by pregnancy. When the growth has ascended into the abdomen, the distended bladder, the pregnant uterus, the enlargement produced by ascites, by tumours of the uterus itself, or by tumours of other organs, as the liver, spleen, omentum, or mesentery, present so many separate sources of error against which we need to be on our guard, while, last of all, the caution is not superfluous which warns us to be on the watch against imaginary tumours, such as are produced by flatus in the intestines, or by fat in the integuments, or loading the omentum, or by feces in the large intestine, or against those still more unreal swellings which have no existence at all save in the disordered fancy of the patient.

It sometimes happens that the earlier stages of ovarian dropsy are accompanied by a good deal both of general febrile disturbance and of local suffering. In such cases doubt may for a time be entertained as to whether a swelling which is discovered by the side of the uterus is the result of inflammation, or whether a more serious view must be taken of its nature. If the disease be ovarian, it will generally be found on close investigation that some slight discomfort, referred to the affected side, had for a considerable time preceded the more acute symptoms, or that those symptoms themselves had been of longer duration than are commonly such as betoken *inflammation of the broad ligament.* At the same time, however, it must be borne in mind that an attack of inflammation is sometimes the first evidence of the presence of ovarian tumour, and that this is

especially the case with hair and fat cysts of the ovary. Still even then the inflammation does not in general extend to the adjacent tissues, so that the ovarian tumour is very often still movable; or if it be pressed so closely between the uterus and the pelvic wall as to have lost this characteristic, yet we miss that thickening and induration of the roof of the vagina which are such constant attendants on inflammation of the broad ligament, and of parts therewith connected. The tumour, too, whether felt per vaginam, or with the hand over the ramus of the pubes, presents a much more definite outline than is yielded by the swelling formed by the inflamed broad ligament, while, lastly, in many instances the uterine sound enables us to isolate the womb from the tumour by its side. Even when at first there is most room for doubt, observation continued for a comparatively short time almost always dispels the uncertainty. Often the inflammation attacks the side opposite to that first affected, while it is rare for both ovaries to be involved within so short a time of each other. But even though this should not occur, the inflammation will nearly certainly issue in suppuration and the discharge of matter, though perhaps by no perceptible channel. The swelling will then diminish, though for a time possibly increasing in hardness, till at length it slowly disappears; while the ovarian tumour, on the contrary, will increase, and with its growing bulk the presence of fluid within it will become more and more perceptible.

The distinction between *fibrous tumours* of the uterus and tumour of the ovary is far from being as easy as might beforehand be anticipated; especially when the tumour grows from the posterior uterine wall. The facts that fibrous tumours are seldom developed at as early an age as tumours of the ovary, that they are seldom solitary, and that they are usually accompanied by menorrhagia are always worth bearing in mind, though far enough from being conclusive in any doubtful case. But, besides, their surface is often uneven or nodulated, they present a greater degree of hardness than an ovarian cyst, though it must not be forgotten that when small and tense the cyst may yield no distinct evidence of fluctuation. The circumstance of the tumour being felt at both sides of the pelvis, on which stress has been laid by some writers as indicative of fibrous tumours of the uterus, is in reality of no great worth, since, as stated in the last lecture, both ovaries are involved in the disease in about a third of all cases. Fibrous tumours not unfrequently somewhat retrovert the womb, while tumours of the ovary do not produce that effect, but merely drive it forwards and to one side. We are very apt, however, to be misled with reference to this point if we examine the patient in the ordinary position on her left side; since the weight of the tumour will be likely to drag or to push the womb towards the side on which the woman lies; and on this account the examination with the view of ascertaining this fact should be made with the patient lying on her back. The sound, too, often helps to clear up doubt; sometimes by distinctly isolating the uterus from the ovarian

tumour, in other cases by ascertaining the cavity of the womb not to be elongated, and thus leading to the conclusion that the growth does not spring from its walls. Valuable, however, as the evidence thus obtained unquestionably is, two circumstances detract from its worth. Elongation of the uterine cavity is met with in cases of ovarian disease either by the tumour as it rises out of the pelvis dragging out the corresponding horn of the uterus, instead of merely lengthening the ligaments of that side; or, as the result of adhesions having formed between the uterus and the tumour, when the cervix becomes of necessity greatly stretched by the rapid increase of the growth. In both of these cases the measurement by means of the sound would suggest an incorrect conclusion; and hence we are justified in attaching greater weight to the evidence which the small uterine cavity affords of the disease being ovarian than to that which the large uterine cavity yields of the disease being seated in the womb.

The grooved needle ought perhaps to be mentioned as assisting in doubtful cases, by affording proof either of the solidity of a tumour or of the presence of fluid within it. The failure to discover fluid in a tumour does not, however, by any means disprove its being ovarian; while further, with reference to this aid to diagnosis, I would add that its use is not always harmless, but that symptoms of serious inflammation are sometimes excited even by the simple puncture with the needle of a tumour which had not seemed to be endowed with any high degree of sensibility.

The tumour formed by the *retroverted* or *retroflected uterus* is scarcely likely to be mistaken for an ovarian tumour. In the first place, as has just been mentioned, the tumour of the ovary does not alter the direction of the os uteri, but merely carries it forwards towards the anterior pelvic wall, while, in the next place, the small size, the solidity, and the comparatively slight mobility of the retroflected fundus of the uterus, and the direct transition of the cervix uteri into its substance, suffice, independently even of the information afforded by the sound, to preserve us from error. In one instance, however, where retroflection of the uterus had persisted down to the end of the sixth month of pregnancy, I fell into the error of mistaking the tumour for ovarian disease. There were, it is true, many circumstances which in this case tended to throw one off one's guard; but I would remind you, *first*, that just such exceptional cases are those for which habits of observation are to be cultivated, and diagnostic skill is to be acquired; and *second*, that in every instance of doubtful pelvic or abdominal tumour, before we attempt to determine what it is, we must first thoroughly satisfy ourselves that it is not the result of pregnancy.

When the tumour has increased in size, so as to occupy the abdominal cavity, there are other affections with which it may be confounded. In many of these cases, too, we are compelled to judge exclusively from what comes under our personal observation, for the patient is often unable to give other than a most imperfect account of her pre-

vious condition, or of the symptoms which attended the development of her disease. In the case of all abdominal tumours whose nature is at all obscure, it is therefore prudent to take certain precautions before we attempt to establish their diagnosis. It is always useful to keep the patient in bed for twenty-four hours; and if the abdominal distension is at all considerable, to apply a bandage lightly, as well as to take care that the bowels are freely relieved some hours before our examination is made. The difference between the morning and afternoon measurement of the abdomen in the case of a person following her ordinary pursuits is often as much as an inch and a half; and this increase in the after part of the day appears to be almost entirely due to the presence of flatus in the intestines. On the other hand, the good effects of a day's stay in bed are often very striking in the diminution of abdominal distension, and the consequently increased facility with which the relations of any tumour are examined, while at the same time the tenderness of the abdominal walls is much lessened, and they become far more tolerant than they otherwise would be of the pressure of the hand.

The general tendency of ovarian tumours as they increase in size is to yield with more and more distinctness the sense of fluctuation; and many growths which, when small, had seemed to be solid, become evidently in the course of time large simple cysts with fluid contents. This change is brought about either by the tension of the cyst diminishing as it grows larger, in consequence of which fluctuation becomes more manifest; or by the removal of the septa which had previously divided it into many chambers; or lastly, by the growth of one cyst at the expense of the others, which remain with whatever solid matter enters into the composition of the tumour, at its lower part, near to its pedicle; where they cannot readily be detected. It is due to the influence of some or all of these causes that we occasionally find the abdomen so much enlarged and the fluctuation in all directions so uniformly distinct as to render it doubtful whether the patient suffers from *ascites* or from encysted dropsy. The grounds of diagnosis, and which in the great majority of cases suffice for the ready distinction between the two conditions, are the following: Ascites is generally preceded and accompanied by considerable disorder of the general health, usually of a febrile character; it is comparatively acute in its development, is often associated with anasarca, almost always with very scanty secretion of urine; in many cases with albuminuria, in all of which respects it differs essentially from ovarian dropsy. Examination, too, yields a different result in the two diseases. The enlargement of the abdomen is symmetrical in ascites; while in ovarian dropsy one side is often manifestly more prominent than the other. In ascites the abdomen is flattened, spreading out at either side; in ovarian dropsy the tumour is distinctly most prominent towards the mesial line, somewhat as is the case in pregnancy, while when the size of the tumour is very considerable, it spreads out the floating ribs, and imparts a conical form

to the thorax, which is not produced by mere ascites. Percussion over the front of the abdomen almost invariably yields a dull sound in ovarian dropsy, for it scarcely ever happens that any coils of intestine are interposed between the enlarged ovary and the abdominal walls. In ascites, on the other hand, the intestines float as near the surface as the mesentery to which they are tethered will permit; and hence percussion over the front of the abdomen gives out a clear sound; or should there at first be dulness, owing to the presence of a large quantity of fluid, it suffices to press a little firmly, so as to displace some of the fluid, and bring the hand nearer to the intestines in order to elicit a clear sound, or at least a semi-resonance, which is equally characteristic. As the patient with ascites lies upon her back, percussion yields a dull sound in either lumbar region; while, if she turns upon her side, resonance is at once perceived on that side which is uppermost. When to this is added that ascites seldom exists long without being attended by some obstruction of the abdominal circulation, and by an attempt at compensating for it by enlargement of the superficial abdominal veins; and lastly, that some trace of the outline of the tumour can usually with care be made out in cases of ovarian dropsy, I have enumerated all the customary signs of each affection.

Various causes, however, complicate a question which seems so simple, and one might almost console oneself for one's own errors of diagnosis in these cases by finding how many and how eminent are the men who have confessed to the like mistakes. Cruveilhier[1] mentions seeing a lady in whom an encysted dropsy of the ovary had been taken by two very experienced practitioners for ascites, and it was not until after a second very careful examination of the patient that they were convinced of the error of their opinion, and of the correctness of the view adopted by Cruveilhier; while Boinet confesses[2] that he on one occasion injected the peritoneum with a solution of iodine under the impression that the case was one of ovarian dropsy. Most of the mistakes which are committed are of this latter kind, and many circumstances contribute to render this the form of error to which practitioners are most liable. Now and then, indeed, we meet with exceptions to the development of ovarian dropsy during a comparatively good state of the general health. A patient, aged forty-two, was admitted into St. Bartholomew's Hospital, in whom the formation of an ovarian tumour exactly coincided with an attack of general dropsy and albuminuria produced by exposure to cold. Greatly impaired health, and a scanty secretion of urine, which was loaded with albumen, still persisted at the time of the woman coming under my notice five months afterwards: but the characters of the tumour were fortunately too well marked for its nature to be overlooked.

[1] *Anatomie Pathologique*, vol. iii. p. 400.
[2] *Iodothérapie, etc.*, 8vo., Paris, 1855, p. 206.

The opposite error is especially likely to be committed in those cases in which ascites, depending on some obstacle to the portal circulation, such for instance as occurs in cirrhosis of the liver, comes on without any active symptoms or any important disturbance of the general health. Such a case was that of a woman, aged thirty-four, who was received into St. Bartholomew's Hospital, suffering from urgent dyspnœa, owing to the enormous distension of the abdomen, which measured forty-four and three-quarter inches in circumference. Tapping was at once performed, and thirty-one pints of serum were evacuated with great and immediate relief to her symptoms. The patient then stated that after experiencing vague pains in her limbs, her abdomen eighteen months before began to enlarge, and as her menstruation, previously regular, had now become suspended, she at first fancied herself pregnant. After an interval of three months, however, the menses returned, and had subsequently become much more profuse than formerly. This weakened her; but until her respiration began to be interfered with by the enormous enlargement of the abdomen, no grave symptoms of ill-health had appeared. The skin was not icteroid, and a day or two after the tapping the patient expressed herself as feeling quite comfortable; her tongue was clean, her bowels were regular, her appetite was good, and she slept well. The history of the patient and her general condition might have misled one; but the following circumstances abundantly guarded against error:—

1st. The fact that no tumour or cyst had been distinguished after the first tapping, and that on the re-accumulation of the fluid no distinct limitation of the swelling in any direction could be discovered.

2d. The existence of distinct resonance on percussion, in spite of the enormous distension of the abdomen, while at the same time there was none of that bulging outwards of the floating ribs which a solid tumour of such dimensions would occasion.

3d. The procident condition of the uterus, while that organ is commonly though not invariably drawn upwards by an ovarian tumour.

4th. The enlargement of the superficial abdominal veins, and the presence of a very obvious irregular, nodular enlargement of the liver.

The signs that in this instance kept from error may be almost entirely absent; and then, as in the painful case which I will next relate for your warning, a little oversight, a little want of vigilance and care may suffice to lead us grievously wrong.

A young girl, aged seventeen and a half years, was sent up from the country, alleged to be suffering from ovarian dropsy, which her appearance and history confirmed. Her abdomen measured forty-one inches; it was generally dull on percussion, except in both lumbar regions, where there was semi-resonance on the right side, and a clear sound more marked and more extended on the left.

Her history was, that having begun to menstruate at fifteen, the catamenia continued regular for twelve months, when they ceased in consequence of a fright at a menstrual period. Her health, however, still remained pretty good, but about five months before she came under my notice the abdomen began to enlarge, and for a month this enlargement had been going on with great rapidity, and her respiration had become impeded, while some swelling of the legs had taken place within a week. There was no enlargement of the superficial abdominal veins; the generally dull sound on percussion, with the resonance in the lumbar regions, the patient's age, her history, all tallied so exactly with the opinion said to have been expressed by her previous medical attendant, that no doubt was for a moment entertained as to her disease being ovarian dropsy. Twenty pints of clear yellowish serum were let out with great relief, a bandage was applied to the abdomen, and no bad symptoms followed. In eleven days, the fluid having re-collected, seventeen pints were once more let out, and ℥x of a solution of iodine were thrown in through the canula, and so completely was the nature of the case taken for granted, that this was not preceded, as it ought to have been, by a repetition of careful examination of the abdomen. The injection caused some pain and alarming faintness, and until the patient's death in sixteen and a half hours great faintness was the prevailing symptom. There was but little pain, no anxiety of countenance, no restlessness, or jactitation; and though the pulse was very feeble, yet for eight hours the heart's action was good and regular, the patient dozed occasionally, and awoke sensible. After that time, however, more marked collapse came on, the surface became cold, vomiting occurred frequently, and sinking thus, she died with very little suffering, and retaining her intellect unclouded almost to the last.

Examination of the body discovered intense congestion of the peritoneum, a few adhesions between the coils of intestine in the upper part of the abdomen, and more numerous adhesions lower down, but no effusion into the abdominal cavity, nor any general deposit of lymph on either surface of the peritoneum. The uterus and its appendages were healthy, there was no tumour anywhere, but the liver was shrunken to half its natural size, and in a state of very far advanced cirrhosis.

Both of these cases are instructive, but the latter is especially so. It teaches the sleepless watchfulness which alone can guard from error, the importance of not taking anything upon trust, nor of allowing our judgment to be swayed by any previously expressed opinion as to the nature of the disease, when once a patient comes under our care, and we assume the responsibility of her management. It shows the need, too, of not taking the previous history upon any other person's authority, but of cross-examining both the patient and her friends ourselves. In this instance it was ascertained after the patient's death that her sister had died of disease of the liver, and

that the fright, which was followed by suppression of the catamenia, was succeeded also by severe pain in the right hypochondrium, and by great sallowness of the complexion, which subsequently passed away. These facts would doubtless have awakened attention to the possibility of the fluid in the abdomen being dependent on some visceral disease, though the existence of advanced cirrhosis of the liver in so young a person is undoubtedly an exceptional occurrence. The case shows, moreover, that enlargement of the superficial abdominal veins is not a constant attendant on obstruction of the portal circulation, while it further proves that resonance in the lumbar region is not so trustworthy an evidence of encysted dropsy as is commonly supposed. The presence of a considerable amount of flatus in the large intestine may cause percussion to yield a clear sound, and this is especially the case on the right side, where the varying relations of the cæcum greatly modify the results which we obtain. Lastly, we may deduce the rule, that the distinct perception of the outline of the tumour is a condition indispensable to any attempt at operation, and further, I may add, that this must have been perceived not simply on a previous occasion, but also at the very time at which the operation, be it what it may, is attempted.

In the cases which I have related, no solid tumour existed, or at least none whose situation at all corresponded with that which would be occupied by the enlarged ovary. Ascites and ovarian tumour may, however, coincide, but the tendency of any error in diagnosis in such a case will be rather to overlooking the existence of the tumour, than to misinterpreting the ascites. Sometimes, indeed, the solid tumour is not perceptible until after the removal of the fluid by tapping, while in other instances it is found on careful examination of the abdomen, that the hand displacing the superjacent fluid comes down here and there upon a solid body, whose exact dimensions and form it may yet not be possible to determine. It is chiefly as influencing our prognosis that the detection of the solid tumour is of importance. The presence of a small quantity of fluid in the abdominal cavity adds little or nothing to the gravity of the prognosis of ovarian dropsy. On the other hand, the presence of a large amount of fluid in the peritoneum, associated with a small, solid tumour, is always a matter of great moment. Such a tumour is seldom ovarian, for ovarian tumours, though when large they disorder the circulation through the abdominal vessels, seldom so far interrupt it as to produce any considerable effusion. Solid tumours so situated as to have this effect are often malignant in character, are very likely to increase, and are scarcely at all within reach of any kind of interference.

The *distended bladder* has been taken for a dropsy of the ovary, but this is an error which ought not to be committed. The exactly oval form of the tumour, its mesial situation, its tension as ascertained by external examination, the unchanged position of the uterus, the absence of any tumour felt per vaginam, or if any be

discovered, its situation in front of the uterus instead of behind it, are characteristic, even if no history of the case were obtainable. It is almost needless to remind you that in every instance where the nature of a tumour admits of doubt, the catheter should be introduced in order to obviate the possibility of this cause of error.

The mistake of dropsy of the ovary for *pregnancy* is impossible so soon as the case is submitted to a thorough examination, though it is far from rare for idle whispers to be raised prejudicial to a patient's character before she has come under medical observation. Examination per vaginam, and the discovery of the unaltered state of the os and cervix and lower segment of the uterus, as contrasted with the closure of the os, the softening of the cervix, and the expansion of the lower segment of the womb which accompany pregnancy, cannot but remove all doubt. In those cases, however, in which a mistake would be most serious in its consequences, namely, in unmarried women, we are often precluded from giving to any one the slightest hint of our doubts or suspicions, and are consequently unable to suggest the expediency of making a vaginal examination. So long, too, as an ovarian cyst does not exceed the size of the womb at the fifth month of pregnancy, it is by no means unusual for it to be elastic rather than distinctly fluctuating, while the position of the tumour is often so nearly mesial that its situation does not afford any means of discriminating between it and the gravid uterus. The absence of the mammary sympathies, and also of any sound like the uterine souffle, can both in general be ascertained, and deserve great reliance, as strong negative evidence against the existence of pregnancy.

There are still *some rare conditions* productive of enlargement of the abdomen which may be mistaken for ovarian tumours. Such, for instance, are those large accumulations of fluid which have been found in the substance of fibrous growths of the uterus,[1] and such the almost equally uncommon cases of encysted dropsy of the abdomen, where the fluid collects in the sub-peritoneal cellular tissue, or between the layers of the omentum.[2] One instance of this latter occurrence has come under my own observation, in which between four and five quarts of a dark fluid were found collected between the folds of the omentum, and during the patient's lifetime frequent discharges of a similar fluid had taken place from the umbilicus. The dropsy had, during the life of the patient, been supposed to be ovarian; but though malignant disease of both ovaries was discovered, yet neither of them contained fluid at all similar in character to

[1] See a reference to these cases in a note at p. 209.

[2] On the subject of cysts of the abdominal cavity see Abeille, *Traité des Hydropsies et des Kystes*, 8vo., Paris, 1852, pp. 519—587; Copland's *Dictionary*, article Dropsy; and the references at p. 660; S. Lee on *Tumours of the Uterus*, p. 123; the cases of Sir B. Brodie, *Med. Gazette*, vol. i. p. 334; Dr. Thomson, *Ibid.*, p. 468; Cruveilhier, *Traité d'Anatomie Pathol.*, vol. iii. p. 518; and the papers of Mr. C. Hawkins, *Med.-Chir. Trans.*, vol. xviii. p. 175; and M. Chantourelle, *Archives de Méd.*, 1831, vol. xxvii. p. 218.

that which was found in the omentum; nor, indeed, could either be detected till after the fluid in the omental cyst had been let out. I am aware of no means by which such cases are to be discriminated from ovarian dropsy; so far as I know, their nature has scarcely ever been suspected during the lifetime of the patient.

The only conditions in which large *tumours of the spleen or liver* are likely to be taken for growths of the ovary, are when they are of very long standing, have acquired a very large size, and have occurred in persons who are either incapacitated by illness from telling their own history, or who have been so unobservant as not to notice the beginning, and scarcely to attend to the progress of their disease. Still even in these circumstances the prominence of the tumour at the upper part of the abdomen, the dulness in the hypochondriac region, and the fact that at some part, if not at all, the lower edge of the growth can be detected, will keep the moderately careful observer from error.

And here, I think, we may take leave of the diagnosis of ovarian tumour.[1] That feces in the large intestine have been taken for

[1] I know no place more fitting than the present for a brief reference to those *floating abdominal tumours* which all practitioners have probably occasionally met with, though I believe that no one has offered a thoroughly satisfactory explanation of their real character.

All of these tumours bear a very close resemblance to each other, both in size, shape, and situation. They are oval in form, usually about the size of a turkey's egg, and are generally situated in the hypochondriac or lateral region, their lower margin seldom descending below the level of the iliac crest. In most instances one tumour only is present, but sometimes there are two in opposite sides, and for the most part symmetrical in all respects. They generally admit of displacement inwards towards the mesial line much more readily than outwards, and upwards to a far greater extent than downwards, so that they can sometimes be pushed up out of reach under the floating ribs, but seldom downwards into the iliac region, and never into the pelvic cavity. They are firm, though not without a certain degree of elasticity; their surface is smooth and regular; no sound can be detected in them by means of the stethoscope, and they yield a dull sound on percussion, modified only by the presence of a coil of intestine distended with air behind them, when they may yield a sort of semi-resonance. Pressure on them is painful, but the pain, which is of a peculiar sickening character, usually passes off when they are no longer handled. Sometimes, however, they are the seat of a constant wearing pain, which comes on causelessly, and continuing for hours, days, or weeks, subsides equally without occasion, though it may be said, as a general rule, to be aggravated by exertion and mitigated by rest. They have either been accidentally found out on examination of the abdomen for some other purpose, or the pain experienced in them has led to the discovery of their presence by the patient. Their rate of increase must be slow, for though patients affected with them have for years been under my occasional observation, I have never ascertained that their size has undergone any modification. I know of one instance, too, in which a tumour of this description had existed for more than twenty years in a lady of sixty, unchanged in shape, size, or situation. This lady had been seen by the late Dr. Warren, by Sir Astley Cooper, and Sir Benjamin Brodie, and it may illustrate the obscurity which prevails with reference to their nature if I mention that each of these eminent men gave a different opinion with reference to it, one of them regarding it as connected with the mesentery, another as a floating kidney, and a third believed it to be ovarian.

I have a record of ten cases, of which the chief particulars are represented in a tabular form:—

them; that fat and flatus have raised a suspicion of their presence; that the abdomen even has been opened to remove a tumour which was found to have no existence, proves only how large is the possibility of error, how vigilant must be our care if we will avoid a danger which the wisest have not always been so fortunate as to escape.

Age.	Years married.	Seat of Tumour.	Period it had existed.	Symptoms.
26	2	Right hypochondrium.	Accidentally discovered when under treatment for another ailment.	None.
27	4	Right hypochondrium.	One year.	Pain and dyspepsia.
29	8½	Left hypochondrium.	One year.	Pain, which came on after exertion.
30	6, sterile.	Right hypochondrium.	Eighteen months.	Pain and dyspepsia.
35	Married.	Both hypochondria.	Left nine months. Right three weeks.	Pain.
38	14	Right hypochondrium.	One year.	Pain.
47	Married.	Left iliac.	Seven years.	Pain, occasional.
60	Twice married, now a widow.	Right iliac.	Twenty years.	Slight occasional pain.
38	17	Right hypochondrium.	Six months.	Occasional pain.
30	5	Right hypochondrium.	Three years and a half.	Dull pain.

In 7 cases, then, the tumour was seated on the right side, in 2 on the left, and in 1 on both sides, its position having in 8 out of the 10 been distinctly in the hypochondrium, twice only in the upper part of the iliac region, and in those two instances allowing of displacement upwards, but not at all in a downward direction. The connection of dyspeptic symptoms with the tumour in the right hypochondrium on two occasions may suggest the probability of its being sometimes formed by the scirrhous pylorus, a hypothesis which, in the case of a patient under the care of Dr. Burrows, was confirmed by a post-mortem examination. The hypothesis of the tumour being a floating kidney may probably be applied to explain many other of these tumours, and perhaps would even account for their occasional sudden appearance after exertion. Cruveilhier* has noticed them; has observed that it is almost always the right kidney which is thus displaced, and that the accident, while very rare in the male subject, is far from being uncommon in the female. He attributes it to the pressure of tightly-laced stays upon the liver. "The kidney," says he, "is then compressed between the liver, which is in front, the lower ribs and the vertebral column, which are behind; and is squeezed, as it were, out of the sort of bed in which it lies without being adherent to it, just as a plum-stone would slip from between the fingers."

Some may possibly be tumours connected with the mesentery, and some, doubtless, admit of the explanation which I have been informed that the late Dr. Abercrombie, of Edinburgh, proposed. He thought that a sort of spasmodic constriction of some of the fibres of the colon enclosed a small collection of flatus, sufficient to form a swelling distinctly perceptible by the hand of the physician, but distinguishable by its resonance on percussion from all solid tumours. I cannot say, however, that I have met with any condition clearly answering to this description.

Whatever be the doubt that may still be entertained with reference to these tumours in some cases, I feel quite satisfied that they are not connected with the uterus or ovaries, that they consequently do not come within the scope of our present inquiries, except inasmuch as they have been occasionally taken on inadequate grounds for ovarian tumour.

* *Anatomie Pathologique Générale*, vol. ii. p. 723.

LECTURE XXVII.

OVARIAN TUMOURS AND DROPSY.

TREATMENT; difficulty of estimating its results. Duration of life in ovarian dropsy. Cases divisible into three classes: some must be let alone, some may be, some require interference.

PROPHYLACTIC MEASURES, and medicinal agents.

OPERATIVE PROCEEDINGS. TAPPING, when absolutely necessary. Opinions as to danger of its performance, statistics of the subject, bad results possibly over-estimated, circumstances in which early tapping may be admissible. Mode of performing the operation; danger of exhaustion and of cyst inflammation; their symptoms and treatment.

THERE is some fallacy as well as much truth in almost all popular sayings. Even the adage that a "doubtful remedy is better than none," is not of universal application, for doubtful remedies are often dangerous, and if they fail to cure they frequently aggravate the disease. The danger of the disease itself is an element never to be lost sight of in our estimation of the expediency of interfering with its progress, and if the present suffering it occasions is but small, if its advance is likely to be slow, if it may be interrupted by occasional pauses, we should hesitate to advise any proceeding by which, though perfect cure may possibly be wrought, yet, on the other hand, life may be cut short suddenly. The chances of complete recovery will by few persons be felt to overbalance the risk of immediate death, and I do not think it becomes us to throw the weight of our influence into the scale.

Considerations of this kind are nowhere more in place than in an inquiry into the *treatment of ovarian tumours and dropsy;* a class of diseases which indeed tend progressively from bad to worse, which often bring with them much suffering; but in which, nevertheless, the suffering is not invariable, nor the downward tendency constantly progressive, so that we cannot limit their possible duration, or, from the date of their commencement, calculate with any approach to certainty the time which will elapse before they reach their close.

The reasons for this uncertainty are so obvious as scarcely to need that I should insist upon them here. I may, however, remind you that in many instances we are unable to fix the time at which ovarian disease began; so imperceptible are often its advances, so few the symptoms that accompany its earlier stages, that not unfrequently

the growth has attained a considerable size before the attention of the patient, or of her medical attendant, is drawn to its presence. Even after it has been discovered it is often as difficult to foretell the future progress of the disease as to determine its past duration. The cyst may long remain stationary, its flaccid walls announcing that absorption goes on more rapidly than secretion, or it may possibly disappear altogether. On the other hand, just the opposite course may be run; the barren cyst may become proliferous, or the compound cyst may suddenly, and apparently causelessly, pass into a state of active development, or evidences of malignancy may manifest themselves in a growth presumed for a long time previously to be innocent; while to all these contingencies must be added those inseparable from the various kinds of interference which the mere palliation of the evil in most instances requires. Advocates of the most opposite views with reference to the dangers attendant on ovarian disease are not without ample support for their opinions: cases are to be found of life continuing for years in very tolerable comfort, and even of the sexual functions being duly performed, and pregnancy and labour occurring in spite of it; the patient dying at length of some other perfectly different ailment. Illustrations of just an opposite kind are still more numerous, telling of the rapid development of the growth, of speedy impairment of the general health, of death occurring in one, two, or three years from the commencement of the evil, or of life being cut short even sooner in consequence of some attempt at giving temporary relief, which it was not possible any longer to delay.

The endeavour has been made indeed to arrive at more definite results, and the late Mr. Safford Lee[1] collected with characteristic diligence the particulars of 123 cases:—

In 38	of which	the disease lasted	1 year.
" 25	"	"	2 years.
" 17	"	"	3 "
" 10	"	"	4 "
" 3	"	"	5 "
" 14	"	"	5 to 10 years.
" 6	"	"	10 to 12 "
" 5	"	"	12 to 16 "
" 4	"	"	20 to 25 "
" 1	"	"	50 years.
123			

Now from this table it appears that 90 out of 123 cases, or 3 out of 4, or 73.9 per cent., terminated fatally within five years, and more than a third of this number within one year from the observed commencement of the disease. But, on the other hand, between the observed

[1] On *Tumours of the Uterus*, p. 117.

and the real commencement of the disease there is, as has already been stated, a wide difference, and while the numbers doubtless understate the duration of the evil in many cases where the disease appeared to be most rapid, they probably by no means truly represent the degree to which life was often prolonged in spite of it. Even as they stand, however, the numbers show that in 16 out of 123 cases, or nearly 1 in 7, life continued for a period of from ten to fifty years; and it must not be forgotten that when a disease has been long quiescent the patient learns to think but little of it; she speaks of it still less; even her medical attendant is perhaps scarcely aware of its presence; and when she dies either of that or of some other affection, it is doubtful whether he who sees the end had also seen the beginning of the malady. One other point there is, concerning which there can be no doubt, and which invalidates all the statistics on the subject wherewith hitherto we have been furnished; and that is, the wide disparity between the results that different cases yield. One year and fifty years cannot both truly represent the time occupied by the same disease in running its course. We can fix the duration of uterine cancer with tolerable accuracy, and find the disease when seated in the womb to obey the same laws as govern it in other parts. We know, too, that the slow-growing fibrous tumours of the uterus have in themselves no tendency to destroy life, though in their course some accident may occur to compromise it, and many others to render it painful. The discrepancy between the results of different cases of ovarian dropsy, on the other hand, plainly shows, what indeed the study of its morbid anatomy has taught us, that under this name several different diseases have been included, having different tendencies, warranting a different prognosis, and calling for different modes of treatment.

In any inquiry into the treatment of the disease these facts must not be lost sight of, but we must consider it with reference to the special form of the affection with which in each separate case we have to do. The question cannot be propounded as to whether this or that plan of treatment is suitable for ovarian dropsy; but, given a certain form of ovarian disease, is this or that proceeding expedient or allowable; or is it wiser to do nothing, or to palliate; or is the attempt to do more justifiable; and when at length the necessity for interference of *some* kind becomes absolutely unquestionable, are the risks even of palliative proceedings so considerable as to warrant a greater hazard being run for the chances of a perfect cure?

All cases of ovarian dropsy and tumour may, for the purposes of therapeutics, be considered as belonging to one or other of three classes, according as they are either—

1. Cases which *may* be let alone.
2. Cases which *must* be let alone.
3. Cases *justifying*, or *absolutely requiring*, *interference*.

All cases of ovarian dropsy, or of tumour undistinguishable from it, *may* be let alone, in which the growth does not exceed the size of

two fists, in which its position does not seriously disturb the functions of the pelvic viscera, in which it is unaccompanied by severe suffering, and, as far as can be ascertained, is not in course of rapid increase. Further, in proportion to the small size of the tumour, to the smoothness of its surface, to its elasticity when pressed upon, and to its mobility, will be the amount of encouragement which we shall be able to afford to the patient, since there will be the more reason for hoping either that the tumour is one of those cysts of the Wolffian bodies, which never exceed certain comparatively small dimensions, or that it may possibly be a mere dropsy of the Fallopian tube, which, though not equally limited in the size to which it attains, has in it nothing of the serious character that belongs to ovarian dropsy. Even in cases, too, in which neither of these hypotheses is correct, it may still be remembered that an ovarian cyst while small is far more likely to remain stationary than when it has attained a considerable size. The mere size of the tumour, however, provided it does not by its bulk disturb the general health, cannot be taken as an indication for interference. The old maxim, "Quieta non movere," is at least as applicable in medicine as in politics, and you will remember the instance which I mentioned to you,[1] where a tumour considerably larger than the adult head has remained for many years stationary, or rather with a slight tendency to diminish in size.

Still, when it is said that such tumours are to be let alone, I do not wish to imply that no precautions should be observed, or that nothing can be done to retard their growth. These precautions, however, are comparatively few, and abundantly simple. They may be summed up as consisting in the endeavour to maintain the general health, and to prevent congestion of the pelvic viscera. The first indication, I conceive, implies the avoidance of all such proceedings as courses of mercury, of iodine, of iodide of potass, or of liquor potassæ, agents of whose power in retarding the development of ovarian cysts there is scarcely any evidence, while of their injurious influence on the constitution when long continued there is the most abundant proof. To carry out the second object, we should certainly dissuade a person affected with this disease from contracting any matrimonial engagement; though between that and the non-fulfilment of an engagement already formed, or the separation of a married woman from her husband's bed there is a wide difference, and moral considerations enter into the question which more than counterbalance mere medical rules. Besides this, too, it is I think very doubtful whether in the mysterious influence of the mind over the body, disappointed affection, or the removal of a wife from her husband's bed, would not act more injuriously even on the sexual system itself than the physical causes which alone our restrictions can control. Sexual intercourse, however, should be moderate, and inasmuch as the influence of pregnancy and labour is often, though by no means always

[1] Lecture xxv. p. 372.

unfavourable, giving rise in many instances to irritation of the cyst, to a more rapid increase of its growth, to inflammation of its peritoneal surface, and the formation of adhesions; or of its interior, and to consequent outpouring of pus, it is desirable that intercourse should not take place at those seasons, just before or just after a menstrual period, when conception is most likely to occur.

The condition of the bowels must always be most carefully watched, and every attention must be paid to insure the perfectly regular performance of the menstrual function. If the menstrual period is attended by any febrile disturbance, or by any increase of pain in the tumour, the patient must be kept strictly in bed, and four or six leeches must be applied over the painful spot, and repeated every second or third day so long as the pain continues; a warm poultice, or fomentations with spongiopiline being constantly employed in the intervals. As soon as the tumour has risen completely into the abdomen, a well-adapted bandage should be worn, partly for the comfort which it seldom fails to afford to the patient, partly because a cyst fills far less rapidly when moderate compression is made upon it than when no counterpressure is employed to resist the accumulation of the fluid.

It has, I know, been alleged that the power of medicine over this disease is much more considerable than I have represented. So great, too, is the influence of a name in determining the conduct of most of us, that almost all the remedies of known efficacy in ascites have been assumed to be beneficial in ovarian dropsy. There can be no doubt, too, but that under the influence of such remedies very appreciable diminution in the size of the abdomen has taken place—a diminution, however, which I believe to be due to the absorption of the fluid poured out into the peritoneal cavity, and not to any modification of the contents of the cyst.

Some ovarian tumours it was said *might*, others *must* be let alone. The latter are all those cases, for the most part of rather rapid growth, whose irregular nodulated surface and whose solid non-fluctuating mass suggests the idea that they are not mere compound cysts, but productions of a malignant character. In most of such cases, too, we find in the patient's history other grounds still more cogent than the anatomical peculiarities of the tumour for avoiding all interference. Such are the facts that the general health has failed simultaneously with the development of the tumour, and that loss of flesh and loss of strength have been early attendants on its progress, and have not first appeared when the different functions of the body had been disordered by its bulk, or when nutrition might be supposed to be impaired by the tax levied on the system for the supply of the mass. Unhappily the cases which seem most to call for help are those in which it is least possible to afford it, while it is in precisely those which may most safely be let alone that interference has the best chance of success.

Between these two classes, however, there is a third in which present relief is called for, and in which it is in our power to afford it. It is just in these cases that we encounter the inquiry as to the comparative risks and comparative merits of different proceedings, whether it is much more hazardous to attempt to remove the evil than to palliate it for a time with the almost absolute certainty that again and again it will return, and that on each occasion our power to palliate it will diminish? Nor is the question altogether confined to these cases. The uncertain tenure of health and life, even in instances where the evil seems quiescent, suggests the importance of discovering some proceeding which entails no greater hazard than we can conscientiously advise our patient to encounter for a reasonable prospect of obtaining so great a good, and of freeing herself from danger ever impending, like the fabled sword which hung over the guest at the banquet.

Very numerous, indeed, are the solutions which have been proposed to these inquiries. It is our duty carefully to examine their merit, and carefully to scrutinize the different surgical proceedings that have been recommended for the relief or the cure of ovarian dropsy.

The first of these proceedings which we must notice, the simplest, the least hazardous, and at the same time the most generally applicable, is the *operation of tapping*. Simple as it is, however, opinion is much divided with reference to the circumstances that warrant its performance; for while some practitioners look upon it as too dangerous to be justified by anything short of most absolute necessity, others consider it to be attended by little risk, and to be a palliative all the more valuable since it is sometimes followed by a perfect cure.

Two questions then come before us. The first of these concerns the circumstances which by unanimous consent justify the performance of tapping as a palliative in cases of ovarian dropsy. The second refers to the amount of hazard attendant on the operation, and the consequent expediency or inexpediency of having recourse to it when not actually compelled by the urgency of the patient's symptoms.

The operation is absolutely indicated in all cases where the bulk of the tumour is so considerable as seriously to interfere with the patient's health, or to occasion her very severe suffering; and this, be the supposed nature of the tumour what it may. In proportion as the contents of the tumour are fluid will the relief obtainable by the operation be considerable; but even though its great bulk should be solid, still the diminution obtained by letting out even some ounces may afford considerable temporary relief to the patient, and will fully justify the experiment.

The state of things which calls thus imperatively for interference varies considerably in different patients, and is far from being abso-

lutely connected either with a certain duration of the disease, or with a certain size of the abdomen. A slowly increasing growth will often attain to a very large size indeed before it causes serious disorder, and a tumour whose contents are entirely fluid commonly produces less distress than one even of smaller size, into the composition of which solid matter enters in large proportion. One reason of this probably is, that solid tumours more frequently press upon the abdominal vessels, interfering with the circulation through them, producing effusion into the peritoneal cavity, and disturbing the kidneys in the performance of their function. Orthopnœa, habitual shortness of breath, even when no exertion is made, complete loss of appetite, or sickness, owing in part to the stomach being mechanically prevented from retaining food, pain referred to the liver, and obstinate constipation, with frequent colicky pains independent of the action of the bowels, a very scanty secretion of urine, and a very feeble and thready pulse, with, perhaps, irregularity of the heart's action—such are the symptoms which, when they begin to occur, indicate the immediate necessity for tapping. Mere unwieldiness in moving about, or discomfort from the tension of the abdominal integuments, though, perhaps, very painful to bear, cannot be regarded as absolute indications for the operation; and time not unfrequently habituates a person to a state of things which at first seemed almost intolerable. Even the circumstance that a tumour is steadily on the increase, cannot be taken as necessarily calling for the operation, since ovarian cysts, though large, sometimes come to a standstill, and to decide in favour of interference when it is possible for a short time longer to delay it, implies that we have answered to our own satisfaction the second question as to the amount of risk attendant upon simple tapping.

In the cases hitherto referred to, the dangers of the operation scarcely enter as an element into our consideration, but tapping takes its place in the same category with various other operations of necessity, such as amputation performed in consequence of injuries, which, how serious soever might be the risk attendant on them, would still be most legitimate, because the only resources at our command.

It would, however, be unreasonable to expect that an operation performed in these circumstances should be free from danger, and this danger arises chiefly from two sources. Great as the relief often is to the patient, a certain amount of shock follows the evacuation of a large quantity of fluid, and patients previously much exhausted sometimes sink in two or three days after tapping. In spite of the warning given to the patient that tapping will in this way probably shorten her days, the choice is not unfrequently made to submit to a proceeding which brings at least present ease; nor have I thought myself failing in my duty if, when our art was almost powerless, I tried to secure the last boon our patients ask of us—an eutha-

nasia. The other danger is one of inflammation of the cyst-walls, issuing in the effusion of lymph and pus into its interior, and not unfrequently associated with peritonitis, which often proves fatal in the course of two or three days. This latter occurrence, too, seems to be of greater frequency after first tappings than in those cases where the operation has been frequently performed, while death from mere collapse is, as might be supposed, more likely to occur where recourse has often been had to tapping. Besides these two risks, which not unnaturally have led practitioners to shrink from this operation, another objection has been urged to it on the ground of the increased rapidity with which after each time of its performance the fluid reaccumulates within the cyst. Expressed in various ways, the opinion is almost unanimous that tapping is but the beginning of the end, and patients are commonly advised, even at the expense of great inconvenience and discomfort, to put up with the present ill, and not to purchase prematurely a brief respite from suffering at so high a price.

The result of the general impression as to the danger of tapping has been not only to postpone its performance in all cases to as late a period as possible, but also to lead to the endeavour to devise some other proceedings, which, if not in themselves less hazardous, should at least afford the chances of a greater good, and offer, by the great prize which they hold out to the fortunate few, some amends for the hazards that all must run, and in the encounter with which many, perhaps most, must fail. Such endeavours are but the expression of a feeling deeply rooted in the breasts of all, and I see nothing to reprobate either in the surgeon who advises, or in the patient who encounters some great present risk, when in the one scale is placed the expectation of perfect health, death, indeed, in the other; but still a death which does but anticipate by a few months the certain issue of her present suffering existence.

To judge at all fairly, however, on such a question we must not overcharge either side of the picture; and that which it now concerns us to determine is whether the colours in which the results of tapping have been drawn are faithful, or whether they are not somewhat darker than the facts of the case altogether warrant.

The chief, indeed almost the only, numerical data of which we are possessed, bearing on this subject, are derived from a table of 20 cases compiled by Mr. Southam,[1] of 46 collected by the late Mr. S. Lee,[2] and of 64 the results of which are given by Professor Kiwisch.[3]

Of these 130 cases, 22 terminated fatally within a few hours or days after tapping, and 25 more in the following six months, or, in other words, 34.7 per cent. of the cases ended in the patient's death in the course of half a year after the performance of tapping. In 114 of the 130, death is stated to have taken place.

[1] *Med. Gazette*, vol. xxxiii. p. 237, Nov. 24, 1843.
[2] *Op. cit.*, p. 176.
[3] *Op. cit.*, vol. ii. p. 115.

In 22 within a few hours, or in less than ten days after tapping.
" 25 " six months.
" 22 " one year.
" 21 " two years.
" 11 " three years.
" 13 after a period exceeding three, and sometimes amounting to several years.

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In 109 of these cases, we are further informed how often the patients had been tapped.

It appears that 46 died after the first tapping,
" 10 " second "
" 25 " from three to six tappings,
" 15 " " seven to twelve "
" 13 " more than twelve "

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The greater absolute mortality attendant upon first tappings of course does not represent an equal amount of greater relative danger. Still, when it appears that only 49 of the total 130 cases were instances of the first performance of tapping, and further, that all the 22 patients who died within a period of ten days from the operation had undergone it for the first time, we are, I think, compelled to admit that the first paracentesis is accompanied by perils which are greatly lessened on its repetition. Of 31 patients of mine who underwent the operation of paracentesis abdominis on account of ovarian dropsy, two died of inflammation of the cyst within a few days after its first performance, and one sank exhausted thirty-six hours after the second tapping. The others all survived the operation, which in one instance was not repeated on account of the large amount of solid matter that entered into the composition of the tumour, and the serious symptoms which had followed its first performance. In one patient, the fluid has never re-collected, and now, after the lapse of three years, during which time she has given birth to her fifth child, all traces of the tumour have disappeared, and recovery may be looked on as complete. In a second, the cyst, having refilled, spontaneously subsided, and, to the best of my knowledge, the patient continues free from disease. Two died subsequently after attempts at the extirpation of the cyst, four sank under the progress of the disease, in the course of which tapping was had recourse to more than once, one died of apoplexy, and the remaining patients were still living when I last heard of them, tapping in many having been subsequently repeated on several occasions, and the injection of a solution of iodine having in eight instances been resorted to with results concerning which I shall have more to say hereafter.

Unfavourable, however, as are the conclusions to which we are

irresistibly led by facts, such as those which have just been mentioned with reference to the ultimate issue of tapping, it is yet very questionable whether they represent the whole of the truth concerning this matter. Some of the data from which the tables were constructed were not collected originally with the view of illustrating the operation of tapping, while the majority of the others are deduced from observations in hospitals, and must therefore, for reasons obvious to all, yield a very high average of unsuccessful results. The cases that seek admission to those institutions are almost always the least hopeful, generally the most far advanced, not unfrequently those of persons who have sought out a place where death may come to them with less suffering than if they awaited it in their own homes. If relieved, such patients quit the hospital, and are often lost sight of; so that, while the failures are known, the instances are frequently undiscovered in which life has been prolonged or rendered comparatively comfortable. Almost in proportion as experience concerning this operation is derived from hospital practice, or from observation in private, does the estimate of its danger appear to be increased or lessened, a circumstance which seems to show that the hazards of the operation depend at least as much on the conditions that surround the patient as on anything inherent in the proceeding itself.[1]

It is, moreover, a question quite open to debate whether the period at which the operation is generally performed has not contributed largely to its fatal issue? The delay, commonly continued until the different functions are seriously disordered, and the patient's sufferings from mere mechanical causes have become urgent, may on the whole be expedient; but it can scarcely be doubted that it must lessen the prospects of recovery when at length the operation is resorted to. Besides, the favourable results which are said to have followed the early performance of tapping in some of those instances where tight bandaging was associated with it, renders it probable (due allowance being made for the exaggeration by which many of the published reports of cases where this proceeding was resorted to are vitiated) that the mere act of tapping in certain selected cases of ovarian dropsy is unattended by any considerable hazard.

The whole of this subject needs a much more searching investigation than it hitherto has received; but in default of this I will ven-

[1] In the *American Journal of Medical Sciences*, vol. xix., new series, April, 1850, p. 334, are some observations on the mortality attendant on tapping, by Dr. W. Atlee, showing that, even tried by such evidence as that adduced by Mr. S. Lee, the tendency of the operation is, on the whole, to prolong life, not to shorten it. M. Velpeau, too, in the recent discussion at the *Académie de Médecine* (*Journal Hebdomadaire*, Nov. 28, 1856), demurs to the accuracy of the generally received opinion of the great mortality arising from simple tapping. He admits that in one year he lost four patients after tapping; but these were exceptional cases of large compound cysts, which it was found possible to empty only very partially. With these exceptions, he has performed the operation 312 times on about 98 patients, without any serious results, either immediate or remote, and many of the patients survived its first performance ten, fifteen, or twenty years.

ture to give my own impressions, and I do so as mere impressions, which further experience may modify or completely change. My present belief, however, is that the dangers of the operation of tapping have on the whole been over-estimated; and further, that while in cases where the amount of solid matter in the growth is considerable, the rule which prescribes the postponement of the operation to the latest possible period is a sound one, it will probably be more expedient in the case of simple ovarian cysts to tap early, before the growth has acquired a large size, and before the constitutional powers of the patient have seriously suffered. The early tapping, too, will most likely become more extensively resorted to if experience should confirm the safety of injections of iodine solutions into the cavity of the cyst.

The operation of tapping, as it was generally practised until within the past few years, whether for ascites or for ovarian dropsy, used to appear a very formidable proceeding. The patient, seated on the edge of the bed or of a sofa, was supported in that position by a couple of assistants, while a bandage was placed round her abdomen, which was tightened in proportion as the fluid escaped, and was adjusted and firmly fastened before she was replaced in her bed. In spite of these precautions, however, very distressing faintness was often induced by the operation, and actual syncope was not very uncommon. It had, indeed, been customary in some exceptional cases, as, for instance, when the patient was very feeble, to tap in the recumbent posture; but to the best of my knowledge Dr. Simpson[1] was the first person who publicly recommended the general performance of the operation in this posture, and for the past five years all my patients have been tapped while lying on their side, by my colleague, Mr. Paget.

The selection of this attitude avoids all the fuss and preparation which are inseparable from tapping the patient in the sitting posture, and which are so suggestive of the idea that some formidable operation is about to be performed. Nothing more is necessary than to bring the patient to the edge of the bed so as to allow of her abdomen projecting somewhat beyond it. The bladder should then be emptied by the catheter (a precaution for which the voluntary efforts of the patient are but a very imperfect substitute), and it having been clearly ascertained that fluctuation is distinct, and that no great thickness of solid matter is situated at the point selected for puncture, the skin may be divided for a quarter of an inch or less with a lancet, and the trocar introduced. It has in some rare instances happened that a large venous trunk, ramifying on the surface of the cyst, has been wounded by the trocar, and that the hemorrhage has had a fatal issue.[2] Such an accident, however, is

[1] *Ed. Med. Journal*, Oct., 1852; and *Obstetric Works*, vol. i. p. 239.

[2] A remarkable instance of fatal hemorrhage from the wound of a vessel of the omentum which adhered to a large ovarian cyst is related by Scanzoni, *op. cit.*, p. 400.

scarcely to be guarded against by any foresight, while the risk of wounding the epigastric artery is pretty certainly avoided by the selection of the linea alba instead of the linea semilunaris as the situation of the puncture. If there were obviously considerable thickness of solid matter in the former situation, it would no doubt be our duty to puncture in the linea semilunaris, or at some other part where there seemed to be a less thickness of intervening substance. It is, however, quite as easy to empty the cyst through a puncture made in the former situation as in the latter; if the patient incline a little more over towards her face, and its greater safety renders it therefore generally preferable. All pressure of the abdomen in order to get rid of the fluid as completely as possible appears to me inexpedient, and I think I have seen inflammation of the cyst excited by such manipulations when rather roughly performed. The application of a flannel bandage afterwards, though not in general necessary, is usually a comfort to the patient; and, in cases where any considerable portion of the growth is solid, can scarcely be dispensed with, since, unless supported by external pressure, the mass is apt to fall from side to side with every movement of the body in a manner to occasion much distress.

I have always been accustomed to keep my patient in bed for a day before tapping, and for three or four days afterwards, and to select for the operation a time as distant as possible from a menstrual period. These precautions, indeed, may not, in every case, be necessary; but, in spite of histories such as that of the patient who every three weeks used to come by omnibus a distance of some five or six miles to Paris, and having been tapped, immediately returned by the same conveyance, I believe them to be always expedient. In every instance of first tapping, where we can have no data to guide us as to the probable results of the operation, it is scarcely possible to err on the side of caution.

The dangers attendant on the operation of tapping are twofold; that of exhaustion on the one hand, of cyst-inflammation on the other. The previous state of the patient's health has, as might be expected, much to do with the former occurrence, but nothing seems to furnish a guarantee against the latter. It sometimes happens that cyst-inflammation runs its course with scarcely any symptoms other than those of exhaustion, or, rather, I imagine that, in patients previously much debilitated, a diseased state of the blood is apt to supervene, and death takes place from pyæmia, of which the cyst-inflammation is the consequence, not the cause. In other instances, however, the sinking of the patient is independent of any recent morbid process, but the slight shock of the operation suffices to disarrange the frail machinery, and to bring it to a stand-still. It is well to bear this risk in mind, in all cases where the patient is very weak, and to dissuade from tapping, unless most urgently called for by the difficulty of respiration, or the inability to retain food on the stomach, which the mere mechanical distension of the abdomen some-

times produces. The precaution of letting the fluid out very slowly, of lowering the head and shoulders as it escapes, and of only partially emptying the cyst, are the means by which the danger from exhaustion is best guarded against, while, after the operation is over, careful watching and judicious nursing are more needed than what is strictly called medical treatment.

The cyst-inflammation is a still more serious accident, and all the more from its occurring when least expected, though it is certainly much less likely to attack simple serous cysts than growths of a more compound character, and those especially which partake of the nature of alveolar carcinoma. Its symptoms are seldom very marked at the outset, and the pain which attends it is by no means proportionate to the danger of the attack. Tenderness on pressure over the tumour is, indeed, always evident, and sometimes, when the inflammation has extended to the peritoneum, there is likewise severe pain independent of pressure; but a quickened pulse, a general febrile condition, unpreceded, however, by shivering and sickness, are the signs which should at once excite our apprehensions. Of all the symptoms, indeed, vomiting, and an irritability of stomach which rejects all medicine, all food, all drink, though the thirst is usually considerable, are of the greatest moment, since they are almost pathognomonic of this affection. It seldom comes on within the first thirty-six hours, often not until the third day after the tapping; while the rate of its progress in fatal cases is variable; death sometimes taking place in three days from its commencement, in other instances not till after the lapse of a week. Whether quick or slow, however, in its advance, symptoms of an acute character are at no time well marked; the pulse seldom has much power, the intense pain often attendant on peritonitis is absent, the bowels, though constipated, answer tolerably readily to medicine, and death usually takes place under the symptoms of depression which accompany pyæmia.

When allowed to go on unchecked for twenty-four or thirty-six hours, the cyst-inflammation is, I believe, an almost hopeless affection, though if treated quite at the outset, and in women not exhausted by the previous ovarian disease, it yields tolerably readily to treatment. Depletion is the great remedy on which I rely, and local depletion usually answers every end; though, on one occasion, when the symptoms set in with much severity, and indeed more nearly resembled those of acute peritonitis than of mere inflammation of the cyst, I abstracted twelve ounces of blood from the arm with great benefit. Twelve or eighteen leeches, however, applied over the tender part, and followed by a warm poultice frequently renewed, or by perpetual fomentation by means of the spongiopiline, often remove the pain, abate the fever, and stop the sickness. So long as the last-named symptom continues, no amount of improvement in other respects can be considered satisfactory, and whether the tenderness seemed to call for it or not, I should repeat the depletion if the sick-

ness had not ceased, or, at least, were not greatly mitigated. A single large dose of calomel, as ten grains given in powder, sometimes arrests the irritability of the stomach, and obtains the action of the bowels with the smallest amount of general disturbance; but I have never found that there was time in these cases for obtaining the specific action of mercurials. The less, too, that the irritable stomach is teased with medicines the better, and iced-water in small quantities, or little pieces of ice given to the patient to suck, are by far the best means of relieving the sickness and of quenching the thirst. When the more serious symptoms are passing off, a few spoonfuls of cold beef-tea, or of cold chicken-broth, will be found to be the most appropriate food, and that which the stomach will best support.

To see the patient early, to watch her carefully, so as to be ready with a timely repetition of the depletion if the symptoms do not yield to its first performance, such are the essentials for saving the patient from this disease, in the management of which no time is afforded for elaborate treatment, nor any chance given for retrieving lost opportunities.

LECTURE XXVIII.

OVARIAN TUMOURS AND DROPSY.

TREATMENT continued—measures proposed for the radical cure of ovarian dropsy—tapping and pressure—subcutaneous puncture of the cyst—tapping per vaginam—tapping followed by some contrivance for keeping the wound permanently open; incision and partial excision of the cyst—tapping, with injection of iodine.

ALTHOUGH in the last lecture I assigned some reasons for doubting whether the perils attendant on tapping in ovarian dropsy had not been overrated, it must yet be allowed that the operation very rarely indeed proves curative, that the fluid generally re-collects, and that a reprieve, and commonly but a very brief reprieve, is all that it affords to the patient.

Hence have arisen various modifications of the operation of tapping, each of which has had for its object the favouring the contraction of the cyst, and the retarding, if not the preventing, the reaccumulation of the fluid.

These consist of—

1st. The employment of tight bandaging after the evacuation of the contents of the cyst.

2d. The subcutaneous puncture or incision of the cyst, with the view of allowing of the escape of its contents into the peritoneal

cavity, and of thus imitating the occurrences which take place when the cyst bursts spontaneously.

3d. The puncture of the cyst per vaginam, in order to insure its more thorough evacuation, and thereby to increase the chances of its permanent contraction.

4th. The keeping the cyst constantly empty, either by allowing a tube to remain permanently in its cavity, or by rendering the opening into it fistulous.

5th. The employment of medicated injections into the cavity of the cyst, of which solutions of iodine appear to be the least hazardous as well as the most frequently successful.

Each of these proceedings must be considered in succession.

I. *Tight bandaging after the evacuation of the contents of the cyst.*

The probable utility of tight bandaging as a means of preventing the reaccumulation of the fluid of an ovarian dropsy after tapping was suggested by Mr. Benjamin Bell;[1] and the late Dr. Hamilton,[2] of Edinburgh, was accustomed to apply a bandage moderately tight round the abdomen as an adjunct to that plan of percussion of the cyst from which he believed that in some instances he had obtained very remarkable results. Mr. Baker Brown,[3] however, was the first who proposed its systematic employment as a means of preventing the growth of ovarian cysts or their refilling after tapping. In his original communications on the subject he proposed to combine the free use of mercurials and of active diuretics with the local treatment, but subsequently abandoned their use, and has since restricted himself to the application of firm pressure over the tumour. His mode of applying it will be best described in his own words.[4]

"First of all, compresses of linen or lint should be so arranged as to present a convex surface, adapted as nicely as possible to the concavity of the pelvis. Over these compresses straps of adhesive plaster should be applied, so as to embrace the spine, meeting and crossing in front, and be extended from the vertebral articulation of the eighth rib to the sacrum. Over this strapping either a broad flannel roller, or, still better, a band with strings and loops which tie in front, may be applied; or a well-made bandage, which, by lacing in front, may be gradually tightened, as made at my suggestion by Mr. Spratt, 2, Brook Street. These bandages must be prevented from slipping upwards by a strap around each thigh. Both the compresses and the bandages will require watching and adjusting from time to time, lest by unequal pressure the bowels or bladder be subjected to inconvenience. Also the crest of the ilium should be guarded with thick buffalo skin or amadou plaster."

[1] *System of Surgery*, vol. v. p. 246.

[2] *Practical Observations on Midwifery*, 8vo., 2d ed., Edinburgh, 1840, p. 62.

[3] At first in the *Lancet*, and afterwards in his work on *Diseases of Women, etc.*, 8vo., 1854, p. 213.

[4] *Op. cit.*, p. 212.

This proceeding is recommended as especially applicable for cases of simple ovarian cysts, free from adhesions, with clear and not albuminous contents, and when time and the condition of the patient admit of its persevering employment. Such, however, are the very cases in which there is the greatest probability of the spontaneous cure of the disease, of which two instances after a single tapping have come under my own observation. If to this fact we likewise add the small number of the reported cures effected by this means, and the circumstance that the reality or, at any rate, the permanence of some of them is more than doubtful, we can, I think, come to no other conclusion than that the *curative* powers of compression of the cyst either before or after the evacuation of its contents is not at all established.

At the same time, however, there can be no doubt but that the enlargement or the refilling of an ovarian cyst may be much retarded by the patient constantly wearing a well-adjusted bandage, though it is obvious that no kind of compress and bandage, how well soever they may be adjusted, can do more than interfere with its rising above the pelvic brim, that they cannot press upon it at all until it has acquired a certain magnitude, which, if not considerable, is yet quite sufficient to render the mere mechanical obliteration of its cavity almost or altogether impossible. In some instances it is probable that inflammation of the cyst may be excited by very firm pressure, and that thus adhesion between its walls and a permanent cure may be effected; but such cases must be exceptional, are probably very rare, and no such result can be calculated on as at all likely to take place from mere compression.

II. It has been suggested that an attempt should be made by the *subcutaneous puncture of the dropsical ovarian* to imitate nature's own proceedings when the cyst gives way and pours out its contents into the peritoneal cavity.

This is, however, a suggestion on theoretical grounds, rather than a mode of treatment which has been brought to the test of actual experiment.[1] Its expediency turns in part on the answer (at present by no means an encouraging one) to be given to the inquiry as to the danger to life attendant on the spontaneous rupture of ovarian cysts. But it must also not be forgotten that while very often fatal, the accident has in a large proportion of the cases where the patients survived, been followed by the speedy re-collection of the fluid. Moreover, by the subcutaneous puncture of the cyst we should empty into the peritoneal cavity fluid of the nature of which, and the probability of its exciting serious inflammation, we must be almost entirely ignorant. The direct puncture of the cyst through the abdominal walls in order to ascertain this point, would at once deprive the operation

[1] Dr. Tilt, indeed, *Lancet*, Aug. 5, 1848, p. 146, mentions an instance in which it was adopted with success under the direction of M. Récamier, but I am not aware of any other case in which this proceeding was attempted.

of what has been alleged as its chief recommendation, namely, the avoidance of any communication between the interior of the cyst and the external air.

III. *The puncture of the cyst through the vagina* instead of through the abdominal walls has been advocated as a means of insuring the more complete evacuation of the fluid, and consequently of increasing the probabilities of a permanent cure.

The question of the advantages of this proceeding turns, I apprehend, very much on the view taken of the expediency of early tapping. In the case of an ovarian cyst which, though still small, though smooth, elastic, and, as far as can be ascertained, simple in its character, is yet obviously increasing, tapping per vaginam appears to me to have the advantages of completely emptying the cyst, of excluding the admission of air, and of wounding the peritoneum in a situation where, as far as I have seen, wounds are less often resented than when inflicted higher in the abdominal cavity. On the other hand, for the following reasons I do not think the proceeding expedient in cases where the tumour has attained any considerable size:—

1st. Because the cyst when large sometimes prevents the bladder from rising out of the pelvic cavity. The organ consequently becomes much altered in shape, and it is spread out laterally in such a way as to expose it with no very great unskilfulness on the part of the operator to the risk of injury by the trocar.

2d. In the case of all compound cysts, the larger are commonly those which are distinguishable in the abdominal cavity, the smaller cysts and the greater proportion of solid matter are to be found near its pedicle. Hence a puncture per vaginam is likely in these circumstances to prove less efficacious than tapping the cyst through the abdominal walls.

3d. The risk of hemorrhage from wounding some large vessel is greater when the puncture is made near the pedicle of the tumour. Except in those cases, therefore, where the cyst is very small, or where it is proposed to follow up the puncture by some further proceeding, it is not desirable to deviate from the ordinary mode of tapping.

IV. It has been recommended to *keep the cyst constantly empty*, either by means of a tube retained permanently in its cavity, or by rendering the opening into it fistulous.

As one of the great drawbacks from the simple puncture of an ovarian cyst consists in the rapidity with which the fluid reaccumulates, so nothing would seem a more obvious means of preventing this evil than keeping the opening permanent. The idea, indeed, is as old as Celsus,[1] who gives very detailed directions for fixing a

[1] *De Médicinâ*, lib. vii. cap. xv. See page 362 of Milligan's edition, Edinburgh, 1831. My attention was called to this passage by Fock's extremely able paper on the operative treatment of ovarian cysts, in *Monatschrift f. Geburtskunde*, vol. vii. p. 332, which contains a good critique on the comparative merits of various proceedings.

leaden or copper tube in the wound, and, after partly evacuating the fluid, closing its orifice, and then allowing the daily escape of about half a pint at a time till it is entirely drained away. The directions of Celsus apply, indeed, to cases of ascites, for the distinction between it and encysted dropsy was not then understood; and to this circumstance it is probably in some measure to be attributed that like many other suggestions of the old writers it remained unnoticed. In the middle of the eighteenth century, however, the celebrated French surgeon, Le Dran,[1] adopted a somewhat similar proceeding. His operation, indeed, was a much more formidable one than that of Celsus, inasmuch as he enlarged the opening into the ovarian sac to the extent of four inches, then introduced into it a leaden tube of considerable size, and at length, after a hazardous suppuration had continued for some time, the patient recovered, though in all cases but one a permanently fistulous opening into the cyst was left behind. Isolated instances are to be found from that time in the medical journals, in which purposely or by accident the opening into an ovarian cyst had remained unclosed, and the consequent suppuration had been followed by the contraction, or even by the complete obliteration of its cavity. It is, however, only within the past twenty years that any systematic attempts have been made to carry this idea into practice, as a means of effecting the radical cure of ovarian dropsy in cases not amenable to other modes of treatment, or in which their employment is shrunk from as being too hazardous.

There are three different modes by which it has been endeavoured to obtain the contraction or obliteration of the cyst.

1st. By leaving a tube in the aperture formed after tapping through the abdominal walls, or by stitching the edge of the cyst wound to that of the integuments so as to keep the opening permanently fistulous.

2d. By tapping per vaginam, and securing a tube in the opening.

3d. By excising a portion of the cyst wall, either with or without subsequent closure of the external wound.

All these proceedings have this in common: that the inflammation, and more or less complete destruction of the cyst, or at least of its secreting membrane, is the condition of their success, while their common danger arises from the difficulty of restraining that inflammation within safe bounds. None of them have been resorted to sufficiently often to furnish any trustworthy body of statistics illustrative of their results; but the cases related by Mr. Baker Brown,[2] who is an advocate of their performance, plainly show the nature and amount of the hazard to which the patient is exposed. My own experience of the first of these operations is derived from two cases, in both of which an exploratory incision had been made

[1] *Mémoires de l'Académie Royale de Chirurgie*, tome vi., 12mo., Paris, 1758, pp. 51 and 73.

[2] *Op. cit.*, pp. 227 and 237.

with the intention, had not the unexpected presence of adhesions prevented it, of extirpating the cyst. The cases had a fatal issue, which took place in one instance in the course of ninety-six hours, the patient dying apparently exhausted by the profuse sero-purulent discharge. No tube was introduced either in this or in the other case; but the edges of the cyst were simply stitched to those of the integuments in the first case, while in the second the opening remained fistulous of its own accord. In that instance the cyst was multilocular with a considerable amount of solid matter. Life was prolonged for seventeen days, during which the symptoms were those of exhaustion, gradually increasing, but unattended by any apparent suffering. The discharge from the cyst was horribly offensive, and the washing it out on several occasions with tepid water had no influence in modifying this condition. After death the same kind of morbid appearances was observed in both cases, namely, cyst-inflammation, with great softening of its wall, a deposit of lymph on its interior, and some peritonitis which, however, in the first case, was not of recent date. In neither instance was there more than a very small quantity of pus within the cyst, and I suppose that if the opening be moderately free the pressure of the surrounding viscera will keep the sac nearly empty. It has, indeed, been proposed, in order to obviate all risk of the accumulation of the contents of the cyst within its cavity, that the patient should, as far as possible, observe the prone position, or that the incision into the cyst should be made in the linea semilunaris, a practice adopted by Mr. Brown, or in the lateral region in the situation of a line drawn from the last rib to the iliac crest, as very strenuously urged by the late Dr. Bühring, of Berlin.[1]

The danger of the proceeding does not appear to be of a kind which any modification in the seat of the opening would remove or perhaps even much lessen. Still this point is one not altogether to be lost sight of, since to the circumstance of the more eligible situation of the opening in cases where the puncture is made per vaginam must be attributed in part the more favourable results which have followed that operation.

The great advocate of the puncture per vaginam was the late Professor Kiwisch,[2] whose colleague and successor, Professor Scanzoni, of Wurzburg, speaks of the proceeding in terms scarcely less eulogistic. The former, indeed, gives no data from which the exact proportion of successes to failures can be arrived at (an omission which in many other instances detracts from the value of his statements), but Professor Scanzoni[3] gives a very clear account of the results which he has obtained, and they are wonderfully favourable. He says that in eight out of fourteen cases a perfect cure followed the

[1] *Die Heilung der Eierstockgeschwülste*, 8vo., Berlin, 1848.

[2] At first in the *Prager Vierteljahrschrift*, vol. x. p. 87; and afterwards in his work, to which reference has so often been made. See vol. ii. p. 102.

[3] *Op. cit.*, p. 406.

operation, that in two the fluid re-collected in the course of a few weeks, that one died of typhus fever two months afterwards, and that three patients were lost sight of, but that in no instance did death take place from the immediate effects of the operation. At the same time, however, he admits the possibility of such an occurrence, and mentions the case of a young woman, aged nineteen, who died of extensive peritonitis a few days after the performance of this operation on her by Professor Kiwisch.

It always appeared to me that an unnecessary degree of violence was inflicted on the cyst by the operation as practised by that physician. He tapped the cyst per vaginam once in order to ascertain that the cyst was a simple one, a proceeding which, though it involves a delay of some weeks, is certainly expedient in every case of ovarian dropsy, since, now and then, the fluid does not re-collect, and it is always desirable to give the patient that chance, even though it be but slender. So soon as the fluid had re-collected sufficiently to allow of the repetition of the puncture, the patient being placed in a semi-recumbent posture, her feet resting on two stools, and her knees separated by assistants, a small canula, curved so as to correspond with the axis of the pelvis, was carried along the fingers and introduced through the roof of the vagina into the cyst. When but a small quantity of fluid had escaped, a grooved director, curved so as to correspond with the canula, was introduced through it, and the canula then withdrawn. A narrow probe-pointed bistoury was then carried along the director, and the wound enlarged so as to admit the index finger to examine the interior of the cyst, and to allow of the ready escape of its contents. A metal tube of the thickness of the thumb, terminating in a rounded, slightly bulbous extremity, was next introduced into the cyst, and retained there by a T bandage. Professor Scanzoni adopts a similar plan, though he employs a straight trocar instead of one curved like that of Kiwisch, and leaves the silver canula in the wound, which he does not enlarge, unless the contents of the cyst are too thick to flow out readily, in which case he enlarges the opening by a long-handled knife with a blade an inch and a half long, which he introduces through the canula for this purpose.

In the three cases in which I performed this operation I employed a trocar and canula having a curve like that of Kiwisch's instrument, and nearly as big round as the little finger. Through the canula a long elastic tube of the size of a No. 12 catheter was introduced, and the canula was withdrawn over it, while the tube was easily retained in the cyst by carrying it through a little silver collar in which it was fixed by a screw, the collar itself being attached to a framework such as used to be employed for retaining the uterine supporter in its place, and secured in a similar manner by tapes passing round the pelvis and thighs of the patient.

My belief is that the operation thus modified in its details is attended by less discomfort and also by a smaller amount of risk than

when an incision is made into the cyst and a heavy metallic tube afterwards fixed in the opening. Be this as it may, however, the proceeding has appeared to me to be attended by much more hazard than would be inferred from the language of Kiwisch or Scanzoni. The death of one of my patients was, indeed, not due to causes necessarily connected with the operation; but in the other two, who eventually recovered, the symptoms of inflammation beginning in the cyst and extending to the peritoneum were so formidable that their life was for some thirty-six hours in most imminent danger, and most active local depletion was needed to subdue the mischief. Scanzoni, indeed, says that in some of his cases no symptoms of reaction followed the operation, nor any signs of local inflammation, but the tumour gradually diminished in size, and in the course of a few days all discharge had ceased, so that the canula was sometimes withdrawn as early as the eighth or tenth day, or even sooner. Both he and Kiwisch, however, speak of the general occurrence of severe cyst-inflammation, during the continuance of which a thin or sanious discharge is poured out, and the local tenderness is extreme. Kiwisch speaks of the gradual subsidence of these symptoms in from ten to twenty days, and of the discharge then gradually assuming a puriform character, but not finally ceasing until from five to seven weeks, previous to which it is not prudent permanently to withdraw the tube. During this time the cyst should be often syringed out gently with tepid water, and I believe the direction that this should be done twice a day is very judicious. I may also add that if an elastic tube be employed, that will require to be changed every five or six days, and I have been compelled by the contraction of the opening to dilate it by means of a sponge tent introduced for a few hours, before it would readmit a tube as large as that which had previously been placed there.

The one great peril of this operation seems to be the cyst-inflammation, and this surmounted, the risk of the hectic symptoms occurring, of pyæmia and its consequences, does certainly seem to be much smaller than when the puncture is made in the abdominal walls. The most energetic antiphlogistic and depletory treatment afford the only chance of subduing the cyst-inflammation, and if very formidable, and not yielding at once to treatment, it would of course be our duty to withdraw the tube and to postpone the attempt at curing the disease to the more pressing necessity of preserving the patient's life.

I ought to add that the results of the operation were on the whole satisfactory in the two patients who survived its performance. I lost sight of one, however, within two months after her discharge from the hospital, though up to that time the fluid had not re-collected. The other patient continues now, after the lapse of six years, in very tolerable health, and stands all day to serve in a confectioner's shop. Her case was one of fat cyst of the ovary, consequently not one in which its complete obliteration was likely to

occur. Nor, indeed, has this happened, but an opening into the cyst has remained permanently fistulous, and from ʒiij to ʒvj of purulent matter escape thus every day, while if, as occasionally happens, the discharge for a day or two becomes very scanty, headache occurs, and the patient feels various discomforts, which again cease on the reappearance of the wonted secretion.

Whatever may be thought of the advantages of this operation, it is not possible to adopt it in a very large number of cases, since the ovarian cyst often rises at a comparatively early period out of the pelvic cavity. In many others, also, it is clearly inexpedient, since in none but simple cysts is cure by this method possible. In the case of a small simple cyst, however, it appears to me more than doubtful whether we are justified in exposing a patient to a danger so very formidable as that of the cyst-inflammation which this operation almost invariably provokes. At any rate, we cannot, I think, rest satisfied with a proceeding, the indications for which must be furnished by some purely exceptional conditions, but must carry our inquiries further after some measure more certain, or more safe.

The dangers which attend on the incision of ovarian cysts, or on any attempt to keep the puncture made in tapping permanently fistulous, accompany in a still greater degree the *excision of a portion of the cyst-wall.* No instance of the performance of this operation has come under my own notice, but several cases are reported in the medical journals both of its successful and its non-successful employment. In some instances it was had recourse to in consequence of unexpected adhesions preventing the complete removal of the tumour; as in the patients operated on by Martini,[1] Bühring,[2] Poland,[3] Prince,[4] and Atlee,[5] of whom 4 died and 3 recovered. But it has also been selected in cases of thin-walled cysts, uncomplicated with adhesions, and existing in patients whose health was but little impaired, on the supposition that partial excision might be found to be a less hazardous operation than total extirpation of a cyst. In such, or such like conditions, the operation has been performed by Mr. Wilson, of Bristol,[6] Mr. Brown, of London,[7] and Mr. Crouch,[8] and of these 6 cases 2 terminated fatally, 4 had a favourable issue. One of the patients died from hemorrhage, the other from exhaustion, and the effusion of purulent matter from the cyst into the peritoneal cavity; while so alarming were the symptoms of inflammation in one of Mr. Brown's cases, that it was considered necessary to bleed the patient

[1] *Rust's Magazin*, vol. xv. p. 436.
[2] *Op. cit.*, cases vii. and viii. pp. 37 and 43.
[3] *Guy's Hospital Reports*, 3d series, vol. i. p. 63.
[4] *American Journal*, July, 1850, vol. xlv. p. 267.
[5] Ibid., April, 1855, p. 387. Nos. 9, 12 and 13 in his table.
[6] *Provincial Medical Journal*, 1851, p. 33.
[7] *Op. cit.*, p. 235.
[8] *Association Medical Journal*, p. 60. In this case, unlike the others, the cyst-wall was of very considerable thickness. It is worth notice, too, that no fewer than seventeen small arteries required ligature.

from the arm four times in the first forty-eight hours after the operation.

The existence of adhesions, such as prevent the complete extirpation of an ovarian cyst, may possibly justify the incision into it, and the allowing the escape of its contents, though it is doubtful whether the risks of this proceeding do not outweigh the probabilities of success. The excision of a portion of the cyst, and the return of the remainder into the abdominal cavity, rest for their justification on the assumption that the fluid, unchanged by the grave injury inflicted on the cyst, will be absorbed by the peritoneum, that the cyst itself will continue for but a short time to secrete, and will then become altered in character, and probably calcified. We need, however, some guarantee of the probability of this occurrence usually taking place, some evidence that the excision of a large portion of the cyst is not likely to be followed by very acute inflammation of that which is left behind, that the secretion from it will not become sanious or purulent, and, consequently, will not be likely to excite violent peritonitis. At present we have no grounds for such expectations, and, consequently, no encouragement to imitate this proceeding.[1]

V. The *employment of iodine injections* into the cavity of the cyst with the view of preventing the reaccumulation of the fluid.

In many of the cases to which reference has hitherto been made, injections into the cyst were employed either for the purpose of more completely evacuating its contents, or with the view of exciting such a measure of active inflammation of its walls as should lead more quickly or more surely to the obliteration of its cavity. In all these instances the injections were but subsidiary measures, neither much relied on by the operators, nor to which any great share in producing the patient's recovery (where recovery did take place) could be attributed. Of late years, however, the attempt has been made to destroy the secreting power of the cyst by the injection into it of a solution of iodine, a practice suggested by the success of a similar mode of treating hydrocele first adopted by Mr. Martin, late of Calcutta, and M. Velpeau. The first reported cases of the employment of iodine injections in ovarian cysts were published by M. Thomas in 1851;[2] though M. Boinet,[3] who is so strong an advocate of the measure, first put it in practice in the year 1848. Since that time it has been repeatedly had recourse to both in this country and the continent, and the results hitherto obtained lead to the hope that in a very large proportion of cases it will be found to check the reaccumulation of the fluid, and in many instances to prevent it completely, while it appears to be attended by less serious danger than any other operation for the radical cure of ovarian dropsy. Some

[1] A judgment still more unfavourable to this proceeding has been passed by Fock, in his able critique, pp. 362–367; and in even more unqualified terms by Scanzoni, *op. cit.*, p. 412.

[2] *Revue Méd. Chir.*, Feb., 1851; and Schmidt's *Jahrb.*, 1851, No. vi. p. 327.

[3] *Iodothérapie*, etc., 8vo, Paris, 1855, p. 429.

of the advocates of its employment, indeed, represent the injection of iodine as being less hazardous than tapping unaccompanied by it; but we may hesitate to accept this conclusion till the statements concerning it are more definite than the alleged results of "twenty *or* thirty" cases.[1] The only statistics with which we are yet furnished sufficient in number and in apparent exactness to warrant any conclusion being drawn from them, are those of M. Boinet,[2] who has published the results of 45 operations on 44 patients, one having had two cysts, which were tapped and injected at different times.

Age of Patients.	Cases.	Cures.	Failures.	Deaths.
From 15 to 20 years	2	1	1	0
" 20 " 30 "	7	5	1	1
" 30 " 40 "	17	16	0	1
" 40 " 50 "	11	6	2	3
" 50 " 60 "	5	2	0	3
" 60 " 78 "	3	1	1	1
	45	31	5	9

In 34 of the cases the cysts were simple; in 11 compound. All the successes occurred where the cyst was simple; but 3 deaths also followed the injection of simple cysts. All the operations on compound cysts failed; and 6 of them were followed by the patient's death; though certainly in many of these cases death would have taken place as soon, possibly even sooner, if interference had not been resorted to. In 19 of the 45 cases the puncture and injection were employed only once, and in 16 of the number a permanent cure was obtained.

19	injected	once,	16	were cured,	2	failures,	1 death.
7	"	twice	5	"	1	"	1 "
6	"	thrice	4	"	1	"	1 "
4[3]	"	four	2	"	1	"	1 "
4	"	six	2	"	0	"	2 "
2	"	seventeen	1	"	0	"	1 "
2	"	nine	0	"	0	"	2 "

The whole of M. Boinet's paper deserves an attentive perusal; for even after every allowance has been made for the over-estimate of success into which the advocate of any peculiar mode of treatment is almost sure to fall, these results still remain far more favourable than have been obtained by any other mode devised for the radical cure of ovarian dropsy. The injection which he employs is

[1] Dr. Simpson, in *Lancet*, March 21, 1857, says that only one death occurred in twenty *or* thirty cases in which he had used the injections of iodine. Singularly enough, this statement appears in a paper devoted to a defence of statistics.

[2] *Gazette Hebdomadaire*, Nov. 21, 1856, p. 828.

[3] In one of these cases, though the tumour was punctured four times, it was injected only thrice, and in another only twice.

a mixture of equal parts of distilled water and the tincture of iodine of the Paris Pharmacopœia, which contains more than twice as much iodine as the compound tincture of the London Pharmacopœia; the proportion being one part to 12½ in the former, one in 29 in the latter. From ʒiv to ʒviij, or ʒx of this mixture, to which some iodide of potass has been added to insure the complete solution of the iodine, are thrown into the cyst, and after being allowed to remain there for from seven to ten minutes, during which time the cyst is kneaded with the hand, in order to bring every part of its wall in contact with the liquid, it is allowed to run out, the tube is withdrawn, and the wound closed. At first he was accustomed to leave in the tube, combining the attempt at cure by keeping the tapping wound fistulous with the use of the injection; but he has now almost entirely discontinued this practice, and proposes its adoption only when frequently-repeated tapping and injection have failed to effect a cure. Although in many instances a considerable quantity of tincture of iodine has remained behind in the cyst without any bad symptoms resulting, M. Boinet always prefers allowing of its escape after the lapse of some minutes. No one can read the particulars of Mr. Teale's cases,[1] of which one proved fatal, while the other two remained unconscious for fifteen and fourteen hours respectively, without feeling that the hazard is greatly increased by allowing the fluid to remain. The same symptoms of most formidable depression are also noticed in the report of a case under Mr. Brown's care[2] in St. Mary's Hospital. That gentleman appears usually to allow the solution of iodine to remain in the cyst, and to combat the formidable symptoms which result from the practice by the liberal administration of wine and brandy. Among my patients at St. Bartholomew's Hospital, in whom the injection has never been allowed to remain more than ten minutes in the cyst, serious depression only once followed its employment; and I very much doubt the propriety of adding to the patient's risks those of poisoning by iodine, when there seems good reason for the belief that the peculiar curative influence of the agent is exerted even after a very short contact with the cyst-walls.

The nature of this influence is still but little understood. It is clear that cyst-inflammation is not a necessary condition for success; for in several instances where no reaccumulation of fluid has taken place no pain has followed the operation, nor any constitutional disturbance, but the cyst once emptied has not refilled, and recovery has not been purchased by the suffering or the peril which seem inseparable from all other modes of cure of ovarian dropsy. We have at present no account of the appearances found on dissection after the successful employment of this proceeding in ovarian disease. Observation, however, has already taught us that the radical cure of

[1] Reported by Mr. Hardwick in *Medical Times*, Jan. 31 and Feb. 7, 1857.
[2] *Lancet*, March 21, 1857, p. 290.

hydrocele by no means of necessity implies the formation of adhesions between the opposite surfaces of the sac. Such adhesions, too, appear to occur less often after the use of iodine injections than after any of the other usual surgical proceedings for the cure of hydrocele,[1] and if the opposite surfaces of the comparatively small cyst in that case fail to become adherent, it is little likely that union should take place between the sides of a large sac which has been distended by many quarts of fluid. It is possible that something is lost of that security against relapse, which enhances so much the value of any cure; it is certain, however, that much is gained in safety if we can avoid the risks of a disease so formidable, so difficult to control, as cyst-inflammation.

My own experience of the use of iodine injections is at present very limited, though what I have seen of its results makes me most anxious to give the method a further trial. Hitherto I have employed it only in eight cases, the results of which are shown in the subjoined table.

[1] See the observations of M. Hutin on the cure of hydrocele, quoted by M. Boinet, *op. cit.*, p. 270.

Table Showing the Result of Iodine Injections in Eight Cases of Ovarian Dropsy.

No.	Age.	Civil state.	Duration of disease.	Previous tappings.	Ovary affected.	Nature of cyst.	Quantity evacuated before injection.	Immediate effects.	Progress.	Results.
1	26 years.	Single.	4 years.	Four. Cyst ruptured into abdomen twice.	Right.	Single.	5 pints.	Cyst inflammation. Iodism.	At end of 13 months abdomen larger than before tapping, but cyst had not ruptured again, nor had tapping been needed.	Possible retardation of disease.
2	39 years.	Married	2 years.	None.	Right.	Single.	11 pints.	Active inflammatory symptoms.	Symptoms yielded to depletion readily. At end of 2 years fluid not re-collected.	Cure.
3	29 years.	Single.	1 year.	One.	Both.	Multilocular partly solid.	8 pints.	Iodism, extreme depression.	Gradually rallied; but fluid re-collected, and has been thrice tapped in ensuing 12 months.	No benefit.
4	22 years.	Single.	2 years.	One.	Right.	Supposed single.	8 pints.	No symptom.	For 2 years continued perfectly well; in 2¼ years tumour formed, with a distinct mass, possibly the remains of former cyst on its wall. Tapped again, and injected, but fluid immediately re-collected.	Cure of the first cyst and consequent retardation of disease.
5	31 years.	Married.	2 years.	One.	Right.	Supposed single.	5½ pints.	Inflammatory symptoms.	The symptoms yielded readily. At end of 18 months cyst not refilled, but on its wall two masses were felt, the size of an orange.	Cure of first cyst; disease retarded.
6	21 years.	Single.	4 years.	One.	Left.	Single.	3½ pints.	Immediate intense pain; operation discontinued.	A watery solution of iodine was employed. The cyst was successfully removed some months after by Mr. Humphry, of Cambridge. It was quite unadherent.	None; operation unfinished.
7	35 years.	Married.	4 years.	Once, and twice emptied itself at umbilicus.	Left.	Malignant.	16 pints on each of three occasions in course of 3 months.	No symptom.	The quantity of pus in the fluid was much diminished after first injection, and amendment after it seemed considerable. The other two had no effect. Death from exhaustion and phlegmasia dolens 21 days after third injection.	Slight improvement.
8	17 years.	Single.	6 months.	Three.	Right (probably) both.	Compound. Much solid matter.	9½ pints on occasion of first injection; 5½ on two subsequent occasions.	No symptom.	Between first and second tapping, interval 5½ months; between second and third, 1½ month; between third and fourth, 3¼ months; iodine then injected; between fourth and fifth, 8 months; between fifth and sixth, 20½ months.	Marked retardation of disease.

The first thing, perhaps, which strikes one in looking over this table, is the fact that in no instance did the injection[1] have a fatal result, while in three cases no constitutional disturbance whatever was produced by the proceeding; and, further, it is worth notice that no connection seemed to subsist between the severity of the symptoms that were produced in some cases, and the permanent cure of the patient. Cyst-inflammation, indeed, appeared to be excited on several occasions, though it yielded tolerably readily to moderate depletion. Its signs were in most instances partly masked, partly exaggerated by the symptoms of iodism, as those phenomena have been termed which are produced by the absorption of large quantities of iodine into the blood. Great abdominal pain, usually, however, speedily abating, extreme depression, cold extremities, a very frequent and very feeble pulse, which sometimes becomes altogether imperceptible at the wrist for a few hours, a sense of sickness, often accompanied by actual vomiting, drowsiness without sleep, thirst, and a metallic taste in the mouth, are the symptoms which occasionally follow immediately, or within the course of a few hours after the injection of the cyst, and suggest a peril even more imminent than in all probability really attends them. Coupled with this condition, which usually loses its more formidable features in the course of twenty-four hours, there is a very scanty secretion of dark claret-coloured urine, loaded with iodine; and a diminution of the amount of iodine, an increase in the quantity of urine, and an abatement of the symptoms take place simultaneously. In the case where the symptoms of iodism were most alarming, an aqueous solution of iodine was employed, and one of the benefits of the admixture of a certain quantity of spirit with the fluid appears to be that it retards the absorption of the iodine. I have, however, found traces of iodine in the urine fourteen days after the injection of the solution that I usually employ, and which contains a third part of spirit, and this although the fluid was allowed to remain in the cyst only for ten minutes.

The observation of these facts renders me very decidedly opposed to the practice either of employing very strong solutions of iodine, or of allowing the injection to remain permanently in the cyst—a practice to which the formidable symptoms and the fatal results which have occurred in some English cases appear to me in great measure attributable. The uncertainty as to the cases which will bear the iodine injection well, as distinguished from those in which cyst-inflammation or profound iodism will be excited by it, is a drawback from its value which this operation shares with every other

[1] The injection which I have been accustomed to employ is a solution prepared at the time, as recommended by M. Guibourt, of Paris (see Boinet, *op. cit.*, p. 101), and which consists of 5 parts of iodine, 5 of iodide of potass, 50 of spirit, and 100 of water. The quantity of iodine which this mixture contains does not differ materially from that which would be present in a mixture of equal parts of compound tincture of iodine of the London Pharmacopœia, and distilled water.

proceeding for the cure, or even for the temporary relief, of ovarian dropsy.

It is hard to say how long a lapse of time is necessary to establish the permanence of a supposed cure of this disease. At the end of two years after the injection of a cyst with the solution of iodine no re-collection of fluid had taken place in one case, and it is perhaps fair to regard that as an instance of its cure. In two other cases, however, the obliteration of the first cyst was followed at the end of eighteen months in the one, and of two years in the other, by the development of others, which showed that the tumour was not of that simple kind which it had at first been supposed to be. Such occurrences point out, indeed, the incompleteness of the success obtained by this proceeding as compared with the really radical cure effected by the extirpation of the ovary. But, on the other hand, even they are not without an encouraging feature, since they show that the presence of solid matter in the tumour does not contra-indicate the injection, nor the compound character of the cyst render the operation dangerous, but that from it we may expect retardation of the disease in cases where yet we must abandon the hope of effecting a permanent cure.

The real value of this proceeding still remains to be definitely determined by larger trials than have yet been made, and it seems almost idle to bring forward an array of names to settle a question which as yet is not ripe for a decision. In this country, Dr. Simpson is the only person who has often had recourse to iodine injections in ovarian dropsy, and I have already mentioned the extremely favourable conclusions at which he has arrived. In France, too, the weight of evidence at the recent discussion of the subject before the Academy of Medicine was decidedly in support of the proceeding. M. Velpeau, indeed, estimated that out of 130 instances in which iodine injections had been employed, 30 terminated fatally; only 64 were permanent cures, while the fluid reaccumulated in 36. In 20 of the 30 fatal cases, however, the opening into the cyst had been maintained fistulous, and to this proceeding, which he characterizes as bad and detestable, M. Velpeau is disposed to attribute the patient's death rather than to the mere employment of the iodine injections. In Germany, Scanzoni is the only writer of authority[1] who pronounces an opinion decidedly unfavourable to the employment of iodine injections. His objection to it appears to rest in part on theoretical grounds, in part to apply to the combination of iodine injections with the maintenance of a tube in the wound. The objection founded on the intractable nature of cyst-inflammation, while it comes somewhat strangely from the advocate of the practice of keeping the cyst wound fistulous, will lose much of its force if experience should confirm the opinion that the iodine acts by not exciting cyst-inflammation either necessarily or generally, but by suspending or altogether destroying the secreting power of its surface.

[1] *Op. cit.*, pp. 408–410.

The grand objection to most proceedings hitherto devised for the cure of ovarian dropsy is not only that they often fail to accomplish that object, but still more that they frequently destroy the patient who submits to them. A comparatively low average of successes may be more than counterbalanced by an equally low rate of mortality; but a very high probability of perfect cure is needed to outweigh a great risk to life. It will, I apprehend, be found that the comparative safety of the iodine injection will be its great recommendation. For my own part, I confess that I shrink from playing a game with heavy odds against success when human life is the stake.

How far this objection applies to the last great remedy, the removal of the diseased organ, must be the subject of inquiry at the next lecture.

LECTURE XXIX.

OVARIAN TUMOURS AND DROPSY.

TREATMENT continued. EXTIRPATION OF THE DISEASED OVARIES. History of the operation, its two varieties, the major and the minor. General results of the operation; its mortality undiminished; date and cause of death.

Circumstances modifying its hazards; existence of adhesions, age of patient, extent of incision, character of tumour.

Unfavourable opinion pronounced, and why; its results and those of Cæsarean section compared, but operation to be judged by its own merits, not by comparison with operations for other purposes.

IT still remains for us, last of all, to examine *the great radical cure of ovarian dropsy, the extirpation of the diseased organ.*

The history of the operation has been so often related, that I need not occupy much time in repeating its details. Performed for the first time in the year 1809, by Dr. Macdowell, of Kentucky, and repeated by him five times in the subsequent ten years, it yet did not attract much attention, nor find many imitators, even among his countrymen, for nearly five and twenty years. Neither on the continent nor in this country were the results of the few instances of its performance at all encouraging, and down to the year 1840, it had been attempted in its original form, which consisted in the making a long incision from the sternum to the symphysis pubis, only twenty-five times.[1]

[1] The diligence of M. Fock, *loc. cit.*, p. 367, has discovered the mention of a case where, more than 150 years ago, the cyst was drawn through the wound made in tapping, by a sort of unintentional anticipation of Mr. Jeaffreson's operation, and he refers, also, to a similar occurrence having happened to the late Mr. Howship. These, however, are not instances of the intentional extirpation of the diseased ovarium, and

In 14 of these cases,[1] the ovary was removed, 9 patients survived the operation, 5 sank under its effects; in 11, either no tumour was discovered, or adhesions prevented its removal; and of these patients, 8 survived the exposure of the abdominal cavity; 3 were destroyed. Matters stood thus, when Dr. Clay and Mr. Walne, by the publication of several cases, a good proportion of which had had a favourable issue, excited the attention of the profession to the subject; and though it was some time before the operation was generally regarded as a legitimate proceeding, and though it is still denounced by some surgeons in unmeasured terms, we yet can reckon now some 200 cases in which it has been resorted to, and are, therefore, in a position to form some opinion of its advantages and its dangers. The operations, indeed, have not at all exactly resembled those first performed, for, in the year 1833, Mr. Jeaffreson, of Framlingham, in Suffolk, endeavoured to lessen the formidable character of the proceeding by tapping the cyst, and then withdrawing it through as small an opening as possible. This has been called the operation by the *small* incision, in contradistinction to the other, or operation by the *large* incision. The advocates of each of these proceedings are very strenuous in insisting upon the merits of that of which they approve, and, as we shall presently see, each has its peculiar advantages. In many respects, however, they stand upon common ground, and we may class them together, for the present, while we seek to ascertain what rate of mortality is to be apprehended, and what measure of success may be hoped for from the attempt to extirpate the dropsical ovary.

Several writers have collected, with much diligence, the statistics of this operation, of which there are now more than 200 instances on record. This last is the number arrived at by Fock, in his very valuable paper on the subject,[2] and though the past eighteen months

cannot be taken into our consideration here, any more than L'Aumonier's case (*Mémoires de la Société Royale de Médecine*, 1782, 4to., p. 296), in which, with a barbarous surgery, he removed the ovary distended with pus, in consequence of inflammation after delivery.

[1] A notice of these earlier cases of the operation by the large incision will be found in the *British and Foreign Medical Review*, Oct., 1843; and three cases, not noticed there, are referred to in the Report on Midwifery, etc., for 1842–3, published in the same journal for April, 1844.

[2] The first of these tables, and the foundation of all subsequent ones, was published by Dr. W. T. Atlee, in the *American Journal* for April, 1845, and was copied, without quite adequate acknowledgment, by Mr. S. Lee, in his very useful work on uterine tumours. Had he lived, the omission would have been rectified, but justice to Dr. Atlee compels me to refer to it here. Dr. Robert Lee has collected in his *Clinical Reports*, etc., the particulars of 162 cases in which ovariotomy was either attempted or actually performed in this country; while Kiwisch's table, in vol. ii. of his *Klinische Vorträge*, supplies some additional cases, chiefly contributed by continental practitioners. In the *American Journal* for April, 1850, Dr. Atlee gives the general results of 179 cases, though not with the same detailed references as in his former table; and in the same journal for April, 1855, he contributes a synopsis of 30 cases of ovariotomy occurring in his own practice. Dr. Clay, of Manchester, who has performed the operation more frequently than any other person, published, in the *British Record*

have furnished a few additional cases both of success and of failure, it is yet so convenient to deal with round numbers that I prefer adopting his figures as they stand. Now these 200 cases of actual extirpation of the ovary yield 111 recoveries to 89 deaths; or, in other words, the mortality is 44½ per cent., or not very far short of half the number of persons in whom the operation is completed die from its effects. But, besides these, there are 92 cases in which the operation could not be completed, on account of the presence of adhesions, or of the tumour having some other situation or other attachments than was supposed beforehand, or in which some even greater diagnostic error was committed, and the very existence of the tumour was found to be a mistake. Of these 92 patients, 31 died, or 33.6 per cent., or 1 in every 3; but 9 of those who survived, after passing through great perils, are reported to have been more or less completely cured of the disease. Putting all the cases together, it seems that of 292 recorded instances of the operation being attempted, 120 ended in death, and 92 in failure; or, in other words, the chances are two to one that the operation will be accomplished; but, if it succeeds, they are nearly equal that the patient will die; and if it fails, the prospect of her surviving the fruitless interference is only double that of her sinking in consequence of it.

The belief was expressed by the advocates of the operation that the mortality attendant on its performance was in course of diminution, and that with the perfecting of our diagnostic skill the proportion of unfinished operations was also lessening. "The rate of mortality," says Dr. Atlee, in the year 1850, "has very much diminished since the publication of my table in 1845. Then there was 1 death in every $2\frac{2}{3}\frac{5}{5}$ cases of gastrotomy, or 37.62 deaths in every 100 cases. Since the publication of that table 78 cases have occurred, in which there was 1 death in every $3\frac{5}{7}$ cases, or 26.92 deaths in every 100 cases. There has also been a diminution in the proportion of unfinished operations .... hence diagnosis has also improved."[1] Unfortunately, as we have seen, it needs but to increase the number of observations in order to do away with the correctness of this very natural, though too sanguine expectation. One death in every $2\frac{2}{6}\frac{2}{9}$ of those cases in which the operation was completed, or 1 in $3\frac{4}{1}\frac{4}{5}$ of all cases, those included in which the operation was abandoned, such are the results of the most recent data; while the number of instances in which the ovary could not be

of Obstetric Medicine, the particulars of 40 cases that came under his own care, and his papers on this subject were collected and published by him, at Manchester, in 1848. In March, 1856, he sent a letter to Dr. Simpson, which appeared in *Ed. Med. Journal* for that month, in which he briefly states the results of 29 additional cases. From all these sources, as well as from others, either overlooked by former writers, or which have occurred subsequently to their investigations, Dr. Fock has collected a total of 292 cases, on which he bases his conclusions, and I have availed myself of his labours.

[1] *American Journal*, April, 1850.

extirpated has risen from 1 in $5\frac{9}{4}$, at which Dr. Atlee estimated it in 1850, to 1 in $3\frac{4}{3}$ six years afterwards, according to the calculation of Dr. Fock. This last category of cases, too, would, I doubt not, be swelled far beyond its present dimensions if every instance in which an exploratory incision sufficed but to discover the impossibility of any further proceeding were placed upon record. Besides the cases 88, 101, and 103, in Dr. Lee's list, the first of which occurred during my connection with the Middlesex Hospital, while the other two were patients of my own, I have had two other cases at St. Bartholomew's Hospital, in which the attempt was made with my full concurrence to remove the ovary, but was made unsuccessfully. One of the patients, a girl of twenty-two, survived the operation four months, but after having struggled through an attack of cyst-inflammation, which followed within thirty-six hours after it was attempted, she sank into a state of hectic, which, after death, seemed to be accounted for by the extension of the inflammation to another cyst that was found distended by more than a quart of pus. The other case was that of a married woman, forty-seven years old, in whom the disease had been of very rapid development, but the cyst was apparently single, while the absence of any history of peritonitis, and the extreme mobility of the tumour seemed to warrant the tolerably confident expectation that no important adhesions existed to interfere with its removal. This hope was found, however, to be illusory, and death took place from cyst-inflammation with all the symptoms of pyæmia, seventeen days after the operation. The examination after death illustrated a source of difficulty which no wisdom could have foreseen. There were, indeed, adhesions to the abdominal peritoneum, and these it may be conceded (though I am by no means convinced of the fact) that the well-skilled tact of some one else might have detected. But the upper and posterior wall of the cyst adhered to the intestines, while from its upper part there passed off a pyriform prolongation, which reached up as high as the eighth rib, and, dividing into three separate branches or diverticula, adhered to the intestines, to the pancreas, and to the capsule of the left kidney. It happens then that my personal experience of ovariotomy is made up of the observation of five cases, in every one of which the operation was undertaken after much consideration, with the approval and under the direction of surgeons of large experience and undoubted skill, but who in every instance, were baffled in their attempt. Two of these cases are now published for the first time, and go to swell the list of unsuccessful operations. They were not withheld before except as the mention of many an unsuccessful operation is withheld, because it teaches no new fact, and serves only to illustrate some well-known danger. I have no doubt, however, but that very many other cases of the same kind must have occurred which are still unpublished just as mine were; but which, could they be collected, would bring out the dark side of the

operation, not so much, perhaps, in proving the mortality from completed ovariotomy to be so much greater than the present estimates, as in showing failures to accomplish it to be much more common, and those failures to be much oftener attended by danger and followed by death.

Some details as to the circumstances in which death takes place from this operation, and the conditions which favour its occurrence may help us to a more correct estimate of its value.

In 68 cases the date at which death occurred is mentioned.

It was immediate, or within six hours in		4
"	soon	" 1
"	on the 1st day	" 6
"	" 2d "	" 14
"	" 3d "	" 12
"	" 4th "	" 4
"	" 5th "	" 6
"	" 6th "	" 6
"	" 7th "	" 1
"	" 10th "	" 2
"	" 11th "	" 1
"	" 12th "	" 2
"	" 17th "	" 1
"	" 21st "	" 2
"	" 22d "	" 1
"	" 26th "	" 1
"	" 30th "	" 1
"	" 34th "	" 1
"	" 70th "	" 1

and 4 months in 1.

In 37 of the fatal cases, then, or in more than half the number of instances in which death takes place, it occurs within seventy-two hours after the operation. In death from the Cæsarean section 61.2 per cent. of the fatal cases occur within the first seventy-two hours.[1] That, however, is a desperate remedy for an urgent danger, and if life is cut short suddenly by its failure, nature unaided would not have prolonged it further. But in ovariotomy while death comes, too, in 53.6 per cent. of the fatal cases within seventy-two hours from the performance of the operation, there is commonly the painful reflection that, but for it, life would have lasted for weeks or months: and the risk of such a result will always be one of the great objections to the operation, and one which even a far larger proportion of successes than have hitherto been obtained will not remove, will even scarcely lessen.

In 59 cases the cause of death is clearly stated.

[1] See a paper by the author on the Cæsarean section, in vol. xxxiv. of *Med.-Chir. Transactions*, p. 61.

In 29	cases	death took place from	peritonitis
" 13	"	"	hemorrhage
" 8	"	"	exhaustion
" 2	"	"	shock
" 3	"	"	suppuration, or abscess
" 2	"	"	ulceration of the intestines
" 1	"	"	tetanus
" 1	"	"	phlebitis
59			

The great danger here seems to be the same as we encounter in the performance of the Cæsarean section, and we meet with it nearly as often. Inflammation carries off 51 per cent. of those who die from the Cæsarean section, 49 per cent. of those to whom the operation of ovariotomy proves fatal. The risk of fatal hemorrhage appears to be much greater in the latter than in the former case, 13 out of 59 having died from it after extirpation of the ovary; only 14 out of 147 from hemorrhage alone after the Cæsarean section. Shock, however, which forms a very important element among the various dangers which attend the latter operation, has scarcely any share in the production of death from ovariotomy, though the somewhat vague term exhaustion probably includes some instances in which death took place from the direct result of shock to the nervous system. It is likely that care and improvements in surgery may somewhat lessen the dangers of hemorrhage, but the great frequency of inflammation, both after this operation as well as after the Cæsarean section, certainly makes it questionable whether the laying open the abdominal cavity can be looked on as so innocent a proceeding as some writers believe when they speak of exploratory incisions as all but devoid of hazard.

The presence or absence of adhesions, the size of the incision, the age of the patient, and the character of the tumour have all been referred to as modifying the dangers of the operation, and consequently as deserving of consideration in the selection of cases for which it is suitable.[1]

In 91 cases adhesions more or less considerable existed; in 54 there were none. Of the former, 44, or 48.3 per cent. died; 17, or 31.2 per cent. of the latter. I cannot state the exact number of instances in which out of these 91 cases the operation was left unfinished on account of adhesions. Another series of facts, however, will serve to illustrate this point. The tables of Dr. R. Lee, and of M. Fock contain mention of 92 uncompleted operations; in 71 of these 92 cases the adhesions of the tumour were the only reasons for the discontinuance of the attempts at its extirpation. In many of these cases the wound was at once closed after the evacuation of the

[1] Some of these numbers are taken from Dr. Atlee's paper, in *American Journal*, April, 1850, with the addition of all cases that have been recorded subsequently.

contents of the cyst, and with the infliction of the least possible amount of violence upon it; but, nevertheless, more than a third of these patients, or 35.2 per cent. died. The diagnostic difficulty does not seem as yet to have been diminished by all the attention which has been bestowed upon it, and the well-skilled tact of those who have oftenest performed ovariotomy appears in this respect to give to its possessor but little superiority over the novice. All the measures which have been proposed for ascertaining the freedom of an ovarian tumour from adhesions afford little if any information except as far as the relation of the cyst to the abdominal parietes is concerned. The adhesions to the abdominal peritoneum, however, are by no means the most important, and their division is often attended with but little difficulty or danger, while connections between the cyst and the various viscera are frequently altogether undiscoverable beforehand, and attempts at dividing them are always hazardous, very often impracticable. To the best of my knowledge there is no other operation in surgery concerning which the chances are nearly one in three that some unforeseen difficulty will prevent its completion, or that a third of the abortive attempts at its performance will end in the patient's death.

It has been suggested that the results of ovariotomy are partly governed by the age of the patient, and the activity of the sexual powers, its dangers lessening with advancing years. In the *Bulletin de la Société de Chirurgie*[1] is a table constructed from data furnished by Dr. Lee's paper on ovarian disease, and which seems to support this opinion. It is as follows:—

From 18	to 30	years,	40	operations,	19	deaths	
" 30	" 40	"	41	"	13	"	
" 40	" 50	"	17	"	4	"	
" 50	" 60	"	13	"	2	"	
			111		38		

A few facts more, however, refute these conclusions, and suggest others, which in their turn further observation may prove erroneous. I have obtained from other sources 91 more cases, with a total of 41 more deaths, and these, added to the other numbers, yield—

From 18	to 30	years,	69	operations,	31	deaths,	mortality	44.9	per cent.
" 30	" 40	"	69	"	22	"	"	31.8	"
" 40	" 50	"	37	"	16	"	"	43.2	"
" 50	" 60	"	23	"	9	"	"	39.1	"
" 60	" 68	"	4	"	1	"	"	25.0	"
			202		79				

One fact, indeed, which the other table indicates this also corro-

[1] *Bulletin de la Société de Chirurgie*, vol. iii. p. 42.

borates, namely, the special risk attendant upon the operation in very young women. Time will show the value of iodine injections; should they prove to be as safe and as successful as their advocates believe, it is very satisfactory to know that precisely in these very patients are simple cysts most frequent, and consequently iodine injections are most applicable.

It has been alleged that the success or failure of the operation has depended to a considerable extent on the size of the incision made into the peritoneum, and that while to open the abdomen from the ensiform cartilage to the pubis is a very dangerous proceeding, the withdrawal of the punctured cyst through a small incision is attended by so much less hazard as to render it unfair to place the two operations in the same category. This difference between the two operations appears, indeed, to be very clearly marked in the statements of those who first directed attention to this subject. The late Mr. S. Lee states[1] "that in 85 cases where the major operation was performed, 50 were cured, 35 died, making the mortality 1 to $2\frac{1}{2}$; in 23, where the minor operation was performed, 19 were cured and 4 died, making the mortality 1 in 6." The result of further observation has been to reduce the discrepancy between the two operations within narrower and narrower limits; not by proving the major operation to be less hazardous than was supposed, but by showing that the dangers of the minor operation had been underrated. Some three years and a half later Dr. Atlee,[2] having collected 133 cases of the major and 28 of the minor operation, found the mortality from the former to be 46, or 1 in $2\frac{41}{46}$; from the latter 8, or 1 in $3\frac{1}{2}$. I have since collected 18 cases of the major, 23 of the minor operation, referring to the latter all cases in which the incision did not exceed six inches in length, making the total 151 of the former, and 51 of the latter, from which the respective deaths have been 59 and 20, or 1 in $2\frac{33}{59}$, and 1 in $2\frac{11}{20}$.

The explanation of this difference between the earlier and the more recent statistics on this subject is doubtless furnished by the fact that the first operations were performed in cases of very thin-walled cysts, free from solid matter and uncomplicated with adhesions, which, therefore, admitted of being drawn through a very small opening. An incision of two inches in length, however, was found to be adequate only in a small minority of cases; but so soon as the incision was made somewhat larger, though the principle of tapping the cyst and removing it through as small an opening as possible was adhered to, yet a much greater amount of interference than before became practicable, adhesions were sought for and divided, the hand, where it seemed necessary, was introduced into the abdomen, and the two operations have now come to be almost on a level in point of danger. It is not the division of the peritoneum three or four inches more or less which determines the fate of the patient, but the greater

[1] *Op. cit.*, p. 211.

[2] *American Journal*, April, 1850, p. 337.

or less degree of meddling which has been necessary to the completion of the operation. This last fact, too, receives a further illustration from the influence which the character of the tumour exercises upon the fate of the patient. Operations on the thin-walled simple cysts, which are most easily removed, are attended by the smallest danger, while the hazards attendant on the extirpation of multilocular cysts and solid tumours are far greater. This fact is very well illustrated by a table drawn up by Mr. Humphry, of Cambridge,[1] in which he divides the different tumours of the ovary into three classes, and shows the results of operations for their removal to have been as follows:—

	Recovered.	Died.
Simple cysts	16	6
Cysts with after growths—multilocular cysts, some described as cysts with solid matter, and two containing hair and teeth . .	13	9
Solid tumours, called fibrous, scirrhous, or solid with fluid, or solid with cysts . .	7	10
	36	25

I find, also, that on dividing ovarian tumours into two grand classes, the simple cysts on the one hand, and the compound cysts, and those containing more or less solid matter on the other, the following results are obtained:—

	Recoveries.	Deaths.
Simple cysts	31	12
Compound cysts, cysts with solid matter, and solid tumours	62	56
	93	68

Neither this table nor the preceding is referred to as showing the actual mortality from ovariotomy, which possibly may not be so considerable as the above figures represent, but merely as illustrative of the comparative risks of the operation according as the tumour does or does not contain any considerable amount of solid matter.

From this wearisome collection of details, imperfect, sometimes conflicting, what inference may we draw with reference to the operation of ovariotomy; or is, perhaps, no conclusion at present possible, and must the decision of the whole question be adjourned to a future time, and to our possession of better information? Some points, indeed, must be left unsettled, but still there appears to me to be ground sufficient for some conclusion, and that I fear must be unfavourable to the performance of ovariotomy.

The chief grounds for this unfavourable opinion may be summed up under the three following heads:—

[1] In a pamphlet entitled, *A Report of some Cases of Operation:* reprinted from the *Association Medical Journal.* Cambridge, 1856, p. 40.

1st. The rate of mortality from the operation does not appear to be in course of diminution, as the result of the accumulated experience and increased dexterity gained by its frequent repetition.

2d. Unlike most operations in which anything like the same rate of mortality occurs, it is scarcely admissible in the doubtful or desperate cases to which the Hippocratic axiom, "ad summos morbos, summæ curationes," applies. The cases in which it may be hoped that the disease if left alone will advance tardily or become stationary, those in which something may be anticipated from other less hazardous forms of interference, are the very cases that yield the successes on which it has been sought to establish the merits of ovariotomy. It is proved to be very hazardous indeed in the young; it is believed by some very competent surgeons to be attended by so much danger in those past the middle period of life, that they have proposed to regard the operation as contraindicated in all women who have exceeded the age of forty-five years. The compound cysts, the cysts with solid matter, the malignant, and quasi-malignant growths, those, in short, whose rate of progress is commonly most rapid, which are the most burdensome to the patient, are attended by the greatest suffering, and admit of the least palliation by other means, are precisely the cases in which the surgeon shrinks most from ovariotomy. In the table drawn up by Mr. Humphry, who himself is an advocate of the operation, cases of this description yielded when operated on 19 deaths to 20 recoveries; in my own table, deduced from a rather larger collection of facts, 56 deaths to 62 recoveries.

3d. Not only is the operation so hazardous in those very cases where it is really most called for, that many surgeons shrink then from its performance; but even in instances that may be selected as the most favourable, we have no sure grounds on which to rest our prognosis as to its issue. "It is, in short, a venture at haphazard, since the medical practitioner is never able, in spite of the large experience already accumulated, to foretell the issue of the operation with the same certainty as guides him in undertaking other serious surgical proceedings. It has, indeed, been seen in numerous instances, that extirpation of the ovary, though performed under the most favourable conditions, and by the most skilful hand, and without the occurrence of any untoward accident, has yet ended in a few days, sometimes even in a few hours, in the patient's death."

These three reasons, the high mortality which experience and dexterity have failed to lessen, the special hazard attendant on those cases where yet the operation is specially indicated, and the utter uncertainty in which we find ourselves, even in the most favourable cases, as to its probable result, have chiefly influenced me in the formation of my opinion as to the general inexpediency of performing ovariotomy.

I have purposely abstained from entering on one argument much elied on by the defenders of ovariotomy, and which is based on the

allegation that many other operations constantly taught and frequently practised are attended by at least as high a rate of mortality. I exceedingly doubt the correctness of some of the very low estimates of the danger of ovariotomy which have been sometimes put forth; they are not only contradicted by the figures which I adduced in a former part of this lecture, but I may further add that Kiwisch, who himself had performed the operation, and whose weakness it certainly was not to underrate successes, or to overrate failures,[1] expressed his belief that the proportion of deaths to recoveries is really as 5 to 4. But letting that pass, and also the important facts that other operations can almost always be completed, while ovariotomy is frequently left unfinished, and that the dangers of other operations can be estimated with considerable accuracy beforehand, while there are no sure data from which to frame the prognosis of any cases of ovariotomy; I would object to the sort of comparison which it has been proposed to institute, on the ground that there is no such resemblance between ovariotomy and those other operations as to render them fair subjects for comparison. The propriety of the performance of tracheotomy in cases of croup has been much canvassed, and many persons of great reputation are still much opposed to it. Its defenders, however, have not sought to establish their point by a comparison of its mortality with that which follows ligature of the subclavian artery, or amputation of the thigh. Comparison can be instituted only between things which bear to each other some resemblance, and the only operation which resembles ovariotomy is the Cæsarean section. We have found, however, that the danger of hemorrhage is greater, that of peritonitis almost as great, in the former, and that the smaller rate of the mortality that follows ovariotomy is to be attributed almost entirely to the absence of that shock which in the Cæsarean section is inseparable from the violent interference with the process of labour and the infliction of injury upon the uterus.[2]

But I do not wish to carry out a comparison between ovariotomy

[1] *Op. cit.*, vol. ii. p. 169.

[2] I myself was not a little surprised at the very high rate of mortality which a dispassionate examination of the subject showed to be attendant on ovariotomy, and I can well imagine that to some persons who have been accustomed to form an entirely different estimate of its dangers, the comparison with the Cæsarean section may seem absolutely untenable.

While these sheets, however, were passing through the press, I received Vol. III. of Scanzoni's *Beiträge zur Geburtskunde, etc.*, at p. 99 of which is an account by Dr. Gustav Simon of *all* the operations, 64 in number, in which ovariotomy has been attempted or actually performed in Germany. The numerous universities, and the great activity of literary commerce in that country, render it probable that all cases unfavourable as well as successful will be reported in juster proportion there than elsewhere. These 64 cases, however, yield "12 radical cures, 46 operations with fatal issue, and 6, the benefits of which were either questionable, temporary, or which turned out utter failures." The fatal cases, then, form 72 per cent. of the total number, a mortality which, as Dr. Simon observes, p. 108, is "even greater than that of the Cæsarean section, under which, according to Kayser's estimate, 63 per cent., according to other authorities two-thirds, of the patients are lost."

and another operation, which, though not without some points of resemblance, is yet performed in different circumstances, and in accordance with wholly different indications. It is to be compared with other measures for the cure of ovarian dropsy and ovarian tumour, just as the value of tracheotomy has always been measured with the value of other means for the cure of croup, and the efforts of surgeons and physicians have been directed to find out trustworthy indications for its performance, to ascertain the degree of additional danger which it brings with it, as well as the fresh elements of hope which it brings with it too.

Ovariotomy is to be tested by its results as compared not with those of amputation at the hip-joint, or of lithotomy, or of the ligature of arteries, but with those of tapping, or of iodine injections, or of any other means that have been used for the cure of the same disease, and with those, too, which may be expected if the malady is left untreated. On all of these points we need further and more exact information than we are as yet possessed of; and till we obtain this the question of ovariotomy cannot be looked on as wholly settled.

At present, however, we are not in a position to lay down the indications justifying ovariotomy, or if we can succeed in sketching them in our study we cannot aver that they exist in any case which we meet with in practice; nor can we venture on any reliable grounds to express a prognosis as to the issue of our interference even when the operation has been performed with the greatest success and the fewest difficulties. Till we can do this, however, the operation seems to me to take its place by the side of those exceptional proceedings, the expediency of which must be determined by each one for himself after a careful consideration of the peculiarities of the case and the idiosyncrasies of the patient.

One remark I cannot refrain from making in conclusion on the grievous injury that is done both to the advance of medical knowledge, and to the standing of our profession with the public by the practice of treating some of these questions as though they were questions of moral right or wrong. It would seem from what has sometimes been said on the subject almost as if ovariotomy could not be defended save from some sinister end, nor its expediency be doubted except from a moral obliquity rendered excusable only by hopeless dulness. Belief in each other's integrity of purpose seems to me essential to our eliciting truth by discussion; and I see no reason why I am to suspect another of being less mindful of our common duty to humanity because he tries to relieve suffering or to prolong life by some means in which I have not the same confidence. The *odium theologicum* has at least age and respectability in its favour; I fear the immortal quarrel between Dr. Slop and Susannah has gone far to render the *odium obstetricantium* simply ridiculous.

LECTURE XXX.

AFFECTIONS OF THE FEMALE BLADDER.

INFLAMMATION OF THE BLADDER, its acute and subacute form: the latter the more frequent—sometimes connected with tubercular disease of the kidney, or with chronic nephritis. Chronic cystitis.

Treatment of the different forms of the disease.

VESICO-VAGINAL FISTULA. Remarks on its prevention, and on the treatment preliminary to an operation for its cure.

INTESTINO-VESICAL FISTULA.

MALIGNANT DISEASE of the Bladder.

IT may at first sight appear that the affections of the urinary organs do not deserve a place in a course of lectures on the diseases of women. To a certain extent, too, the objection is well-founded; and I will therefore state at once that it is not my intention to enter on the consideration of the whole of so extensive a subject, or to occupy your time with the minute study of diseases which are common to both sexes, which run in both a similar course, and manifest themselves by the same symptoms.

There are, however, some disorders of the urinary apparatus almost peculiar to the female sex, and others whose causes and whose course are different in women and in men, and it is to these, and these only, that I propose to call your attention.

Reference has been made over and over again to the manner in which the bladder participates in the disorder even of the functions of the womb, and instances have been adduced of the advance of serious organic disease of the uterus, unannounced by other symptoms than those which an irritable state of the bladder, or a somewhat altered character of the urinary secretion presented. Nor is this all, but not unfrequently the subsidence of uterine disease leaves behind some impairment of the functions of the bladder; and constant irritability of the organ, pain in micturition, or occasional difficulty in voiding the urine, remain as the after effects of some not very severe attack of inflammation of the womb, or of its appendages.

Inflammation, indeed, beginning in adjacent parts, and by its extension involving the bladder, plays a very important part among the causes of disorder of the urinary organs in woman. It is thus that irritability of the bladder is not unfrequently left behind after

an attack of vaginitis, or follows on a miscarriage or a tedious labour. The recovery in such cases seems at first almost complete; but the slightest cause, such as the natural congestion of the pelvic viscera which accompanies menstruation, accidental exposure to cold, or the occurrence of pregnancy, suffices to reproduce the frequent, and difficult, and painful micturition, and to render the urine once more turbid, charged with the phosphates, and abounding in deposits of pus or mucus. Such symptoms, too, continue for months or years varying in degree, now worse now better, a life-long source of discomfort, tending rather to increase than to diminish.

Acute Cystitis has never come under my notice except after delivery, when its symptoms have been almost lost in those of the graver inflammation of the uterus, or of the peritoneum with which it was associated. These complications, when severe, often terminate in death, and then the interior of the bladder is not unfrequently found denuded to a great extent of its mucous membrane, which hangs in dark, sloughy shreds and patches from an intensely congested surface; its state closely resembling that presented by the interior of the womb itself.

For the most part, however, the injury inflicted on the bladder is less grave, or at least more circumscribed, and, not being attended by serious affection of the womb itself, does not prove dangerous to life. At some one point where, during labour, the pressure of the fœtal head was most considerable, the tissue dies, and the patient's distress and dysuria find a melancholy alleviation in the unconscious outflow of the urine. The inflammation has ended in destruction of tissue and in the formation of a vesico-vaginal fistula, but it has ended, and sufferings of a new kind now takes the place of that which the patient had before endured. But this accident is happily not the most usual result of inflammation of the bladder, the long-continued pressure on the organ, or the neglect to employ the catheter, or the inflammation of the uterus leading to a sort of *subacute cystitis* very painful and very difficult of cure, but neither destroying life nor condemning the patient to permanent incontinence of urine.

The history of such cases is generally something of this sort. Labour, or perhaps abortion, was followed by an attack of pain in the lower part of the abdomen, with much tenderness on pressure, and with difficulty and pain in voiding the urine, or sometimes with actual inability to pass it. Leeches and other appropriate treatment had probably removed the other symptoms and mitigated those referred to the bladder; but still the patient finds herself distressed by a constant desire to pass water, which she is unable to retain above twenty minutes or half an hour, the wish to void it being uncontrollable, though the pain in the act itself is liable to considerable variations. The urine is alkaline, often intensely so, loaded with the phosphates, and containing also a large quantity of pus or mucus, the amount of which, however, frequently seems to the naked eye

more considerable than it really is from the abundant deposit of phosphates with which it is mingled.

The constant direction of the mind to the urinary function no doubt increases the frequency of the desire to empty the bladder, and the incessant calls to pass water by night as well as by day break down the patient's health and grievously embitter her existence. Every circumstance, too, which adds to the congestion of the pelvic viscera exaggerates the irritability of the bladder. Hence the menstrual period is always a time of increased discomfort; hence, too, the symptoms are sure to be aggravated by the patient's return to her husband's bed, and the occurrence of pregnancy is invariably accompanied by an exacerbation of all her sufferings, and by a real advance of her disease.

Examination of the patient seldom fails to confirm the diagnosis to which a mere detail of the symptoms would lead us, though it must be borne in mind that, according to their own preconceived notions, patients will sometimes give great prominence to the indications of disease either of the womb or of the bladder, and will, till closely questioned, say little concerning those other symptoms which, though perhaps not less distressing, had yet impressed them less because they were supposed to be subordinate in importance or secondary in the order of their occurrence. Tenderness on pressure over the pubes is a common attendant on inflammation of the bladder, though, owing to the contracted state of the organ, this symptom is not always appreciable unless the pressure is made directly downwards into the pelvic cavity. The finger in the vagina generally ascertains all the parts to be unduly sensitive, though often there is no perceptible alteration in their condition. The mere increase of sensibility, too, is not always manifest unless pressure is made forwards against the anterior vaginal wall; but then the suffering which is at once experienced points to the real seat of mischief, while the introduction of the catheter excites pain almost intolerable from its severity, and which often abides for many hours.

In the higher classes of society the ailment scarcely reaches such a degree of severity as is here described. Appropriate treatment in the first instance, and prolonged care afterwards, if they do not completely remove the disease, in general so greatly mitigate it as to reduce it to, at the worst, a painful infirmity. Among the poor, however, the case is very different; for the disease, at first neglected, is often but little heeded afterwards, and when the patient has recovered from the more urgent consequences of the delivery, or the miscarriage in which her sufferings originated, she is compelled to return at once to her ordinary duties. Causes, in themselves trifling, a slight exposure to cold, inability to rest during a menstrual period, the ordinary incidents of married life, sexual intercourse, pregnancy, abortion, or delivery, add to the congestion of the bladder, and increase its irritability. At length, the patient seeks admission into a hospital, but stays there only long enough to gain some slight relief,

not long enough to make any real advance towards cure. The mucous membrane of the bladder becomes ulcerated, and blood in small quantities appears in the urine, in addition to the deposits of pus and of the phosphates which it before contained. The bladder is so contracted that it can no longer hold half an ounce of urine; and sometimes the ureters themselves become dilated, as if the urine sojourned there with less distress to the patient; nor do the kidneys remain exempt from a participation in the mischief. Their substance wastes, while the distinction between the cortical and medullary portion becomes less obvious than natural; they become sacculated, and turbid urine is generally found within them, while their lining membrane is highly vascular, and the urine is sometimes actually purulent, or, in other words, pyelitis follows the disease of the bladder, and with it, atrophy of the proper tissue of the kidneys. The mode of death in these cases is very various. Sometimes the patient sinks exhausted, and, having long been feeble, passes away quietly and unexpectedly; at other times the irritability of the stomach becomes so extreme that all food and all medicine are alike rejected. Sometimes much suffering precedes death, and I remember one poor woman who all day and all night long sat crouched on a chamber utensil, so incessant was the call to empty her bladder, while she complained of the urine as it passed scalding her like molten lead. She remained thus, swaying herself to and fro in her agony, unrelieved by even the largest doses of opium, till, as life waned, her pains lessened too, and at length she lay down for the first time for many weeks, worn out and weary, to die. In other cases, the kidneys cease by degrees to perform their functions, and at last no urine at all is secreted, and typhoid symptoms come on, under which the patient sinks rapidly.

There can be no doubt but that some of these cases are connected with tubercular disease of the kidney,[1] the affection of the bladder being secondary and subordinate, and this even though the symptoms during life have pointed almost exclusively to the bladder as the seat of mischief. It is probable, too, that in other instances the irritation of the bladder consequent on the miscarriage or the labour from

[1] Sir B. C. Brodie's work on *Diseases of the Urinary Organs* contains, at p. 133, a short but valuable chapter on symptoms affecting the bladder in consequence of disease in the kidney, and some of the cases which he relates appear to be instances of tuberculous disease of that organ. Rokitansky, *op. cit.*, vol. ii. p. 443, does but just refer to tubercular deposit in the kidney as a secondary occurrence, and one more common in the male than in the female; while Louis, *Recherches sur la Phthisie*, p. 129, refers to the existence of considerable tuberculous disease of the kidney as a rare occurrence. Rayer, *Maladies des Reins*, vol. iii. p. 618, treats very fully of the affection, but he also speaks of it as being secondary to tuberculous disease elsewhere, and for the most part also to such disease in a rather advanced form. Dr. Prout, *On Stomach and Urinary Diseases*, 3d edition, pp. 393–400, notices another class of cases not connected with tubercle, concerning which he confesses his own knowledge to be but incomplete. Such cases are not very rare in women; they well deserve a careful investigation. In my hands I must confess that they have been the opprobria of the ward.

which the patient dates the commencement of her illness may have been the exciting cause of the subsequent mischief, and that the tubercular deposit in the kidney has really been occasioned by the previous cystitis. I have no means of judging of the comparative frequency of tubercular disease of the kidney in the two sexes; it certainly is not common in the female; or, perhaps, it may be that one comparatively seldom sees the termination of a disease so chronic as this would appear often to be, causeless irritability of bladder sometimes occasioning distress and proving rebellious to treatment for years before the more serious symptoms set in. Possibly the more acute symptoms coincide with the extension of mischief to the bladder, though its amount varies greatly; for while I have sometimes found nothing more than intense congestion of its lining membrane, I have also in other instances seen it ulcerated, with patches of lymph on its surface, or have even found it completely destroyed, the muscular coat being everywhere exposed, and the broad bands of muscular fibre of a vivid red crossing the interior of the organ in all directions. Once, too, the mischief had passed even this point; the bladder was perforated at one spot near its upper and posterior part, where the adhesion of a portion of omentum to it had alone prevented the escape of its contents, and in other parts the peritoneum alone remained entire. In this case, too, the disease had extended even to the urethra, the walls of which were exceedingly thickened, while its lining membrane was destroyed by ulceration, and numerous warty growths or granulations beset its surface.

In this and in other cases it is no doubt not to the tubercular deposit alone, but rather to the consequent pyelitis and cystitis that the patient's intense sufferings are due. What it concerns us most to bear in mind is that inflammation of the kidneys and of the bladder may occur as secondary to tubercular deposit, when yet no other symptom of tuberculosis is present, and, further, that such a disease may run its course to a fatal issue without phthisis supervening, even without any deposit of tubercle in the lungs or elsewhere than in the diseased organs and the absorbent glands in their immediate vicinity.

One other class of cases there is, characterized like the preceding by great irritability of the bladder, but more chronic in their course, and tending less certainly to a fatal issue, though as little amenable to treatment. Their symptoms come on in early adult age, and occur independently of pregnancy, marriage, or of any disorder of the uterine functions, while the changes which the urine itself presents are not very remarkable. It is neither laden with pus, nor does it abound in phosphatic deposits; its quantity usually falls a little below the average, but its specific gravity seldom much exceeds 1020°, occasionally falls below it; it is usually nearly neutral, slightly turbid, containing a little excess of phosphates; sometimes also crystals of the oxalate of lime may be discovered in it, and now and then a little albumen, though its presence is by no means constant.

The history of these cases is usually very obscure, and often presents nothing more definite than the causeless occurrence of frequent desire to pass water, attended by dull pain in the loins, extending to the hypogastrium. These symptoms come on so gradually that the patient can scarcely tell the date of their commencement, but knows only that for some two or three years or more a source of discomfort, from which she used to be free, has been by degrees growing upon her. The general health often continues comparatively undisturbed, even after the irritability of the bladder has become very troublesome, while the symptoms of constitutional disorder, which do at length appear, are commonly of a very vague and ill-defined character, such as loss of appetite, loss of strength, and general gastro-intestinal disorder, with a tongue thinly coated with yellow fur, and not cleaning under any modification of treatment. My impression is that these are cases of a chronic form of nephritis, and that, when they endanger life, it is by the extension of the mischief to the lining membrane of the kidneys, and by the supervention of pyelitis with that chronic inflammation of the bladder itself with which it is usually associated. So long as this complication is absent the disease shows little disposition to increase, while there are long pauses in its course, though never a complete subsidence of all the symptoms, the backache disappearing sooner than the irritable bladder, while even when things are at the best a trivial cause, and especially a slight exposure to cold, will suffice to reproduce all the ailments with undiminished intensity.

Of all these affections, that in which the bladder is the primary seat of the mischief is, as might be expected, the most amenable to *treatment*, though even then the course of the disease is always slow, and recovery often but imperfect. Many of the instances of cystitis after delivery are traceable to neglect of the very obvious precaution of introducing the catheter when labour is at all protracted, or whenever the pressure on the neck of the bladder has been so considerable as to render micturition for a day or two painful or difficult. Another error, which often lays the foundation of this very troublesome complaint, is the omitting to treat those slighter forms of cystitis which frequently succeed to a tedious labour, and which, though they in many instances subside spontaneously, yet rarely disappear so speedily or so completely if let alone as if a few leeches are applied over the hypogastrium, and the uva ursi, combined with some sedative, is administered, while the catheter is employed regularly to prevent any retention of urine. These precautions, too, are perhaps still more frequently overlooked, though scarcely less necessary in cases where peritonitis has occurred, or where inflammation of the uterine appendages has taken place after delivery or abortion, or even in the unimpregnated state, since subacute cystitis is far from being a rare sequela of any of the more active forms of abdominal inflammation in women of all ages and in all circumstances.

If the disease, on whatever cause it depends, has not been checked

at its very outset, recovery will at best be tedious. Our prognosis as to this point may in general be deduced with tolerable accuracy from the condition of the urine; the presence in it of a large deposit of the phosphates being a more unfavourable sign than an abundance of pus or of mucus. With reference to this, too, it may not be out of place to observe that in drawing our conclusions from the gelatinization of the urine with liquor potassæ, or from the abundance of mucus in the fluid, we ought to make sure that there is no considerable leucorrhœal or purulent discharge from the vagina, since its unsuspected admixture with the urine has sometimes led to the expression of a far more unfavourable opinion as to the state of the patient than was really called for.

So long as the disease retains anything of an acute character, local depletion will still be useful, and the application of six or eight leeches to the hypogastrium, two or three times repeated, will be of more service than the employment once of a larger number. So soon, too, as the tenderness of the vagina admits of the introduction of the speculum or of a leech tube, the relief afforded by drawing blood from the anterior vaginal wall will generally be found to be very remarkable. The patient should be kept in bed; her diet should consist of beef-tea, farinaceous substances, and milk, with barley-water and the Vichy water as her common drinks. In this stage, too, I know of no better medicine than the extract and decoction of uva ursi.[1] On the subsidence of the more acute symptoms the diet may be improved, and the hydrochloric acid with pareira[2] may be substituted for the previous prescription, while anything which amends the patient's general health will probably be of service in lessening the irritability of her bladder. Wine and tonics are often of service when the acute stage of the ailment is passed, and the urine, though unhealthy in character, is secreted in sufficient quantity; and sometimes quinine, at other times chalybeate preparations will be found to be most useful. The irritability of the bladder not unfrequently continues as the result of mere habit after the disease to which it was originally due has subsided. Large doses of the tincture of the sesquichloride of iron, as fifteen or twenty minims three or four times a day, frequently relieve this infirmity, while it is also desirable to give a sixth or a fourth of a grain of morphia every night in order to lessen the incessant desire to pass water, which otherwise would deprive the patient of sleep. Something, however, will still always remain to be accomplished by the voluntary efforts of the patient to overcome a habit which, if unchecked, will so much interfere with the comfort of her future life. During convalescence the patient cannot too sedulously guard against

[1] (No. 11.)
℞.—Extracti uvæ ursi, ʒj;
Tinct. hyoscyami, ʒiij;
Tinct. aurantii, ʒij;
Decoct. uvæ ursi, ad, ℥vj.
M. ft. mist., cujus sumat cochl. 2 ampla 4tâ quâque horâ.

[2] (No. 12.)
℞.—Extracti pareiræ, gr. xlviij;
Acid. hydrochlor. dil., ♏xl;
Morphiæ hydrochlor., gr. ss;
Decoct. pareiræ, ℥vj.
M. ft. mist., cujus sumat 4tam partem 6tâ quâque horâ.

catching cold, or against any disorder of her menstrual function, each return of which will long bring with it some revival of her former discomfort, and a threatening, at least, of the rekindling of former disease. Lastly, I may add, it is inexpedient that a married woman should return to her husband's bed, to the local excitement of sexual intercourse, and to the risks of pregnancy, until her recovery is well established.

Cystitis is, unfortunately, less often met with, at least among the poorer class of patients, in the subacute form than in one decidedly chronic, in which, in addition to pus and the phosphates, the urine contains a large quantity of extremely tenacious mucus, is intensely alkaline, and of a high ammoniacal odour. In this condition, in spite of a very intense degree of local tenderness, and of very frequent desire to pass water, the abstraction of blood must not be resorted to, for it weakens the patient's general powers without alleviating her ailment. A first step towards relieving her sufferings is to place her in bed; the uniform temperature of the surface being thus maintained, prevents any sudden demand being made on the function of the kidneys, while the disposition to congestion of the pelvic viscera is much lessened by the maintenance of the horizontal posture. Throughout the whole course of one of these cases opium in some form or other is the remedy on which our greatest dependence must be placed, and its value far exceeds that of any medicine supposed to exert a specific influence on the bladder. Of these medicines, two of the most useful, the uva ursi and the pareira, have already been alluded to. When these remedies fail in the forms which I have already suggested, I have seen benefit result from the combination of the pareira either with small doses of copaiba or with the benzoic acid. Sometimes, too, especially where the secretion of urine is scanty, the benzoin alone has proved serviceable; though a not unfrequent drawback from any of these medicines is that they nauseate the stomach, and the alleviation of local suffering is then too dearly purchased at the expense of the patient's general health.

I have on several occasions made trial of injections into the bladder in cases where the condition of the urine was very unhealthy, and where it contained a large quantity of ropy mucus. For this purpose I have, in accordance with Sir B. Brodie's suggestion, employed the decoction of poppies, to which I have but very rarely added a few drops of dilute nitric acid. The instances, however, in which this proceeding was at all tolerated were quite exceptional, and almost always such severe and such abiding pain was excited as to compel me to desist from a repetition of the experiment. Even when borne for two or three times, and giving an earnest of effecting some lasting good by the improvement which it wrought in the state of the urine, pain has seldom failed to come on, and to preclude the continued employment of the measure. One reason of this failure (for I am not aware of any want of care either in the selection of the cases or in the application of the remedy) may perhaps have been

that the persistence of chronic cystitis in the female subject for any considerable time generally, if not invariably, occasions irritation of the kidneys, and a sort of subacute pyelitis. There seems also to be a great tendency for the mischief in these cases to terminate in ulceration of the mucous membrane of the bladder, and not to stop short with the induction of that thickening which is so common in the male subject.

One other proceeding which I have now and then resorted to in cases of chronic cystitis with much irritability of the bladder, has been the introduction of a seton just above the symphysis pubis. I have observed decided benefit from it, especially in those cases where the irritability of the bladder was out of proportion to the amount of obvious disease; though from its nature this remedy is one to which we cannot very often have recourse.

It would perhaps scarcely be right to take leave of the subject of inflammation of the bladder without a word or two concerning those sad cases in which vaginitis following delivery terminates in the death of the tissues, and in the formation of a *fistulous communication between the bladder and vagina.* There can be no doubt but that in the great majority of instances this accident is due to the delay of instrumental interference in tedious labour, coupled with the omission to use the catheter. It is extraordinary how often this latter simple precaution is neglected, how often the statement of the patient or of her nurse is accepted as conclusive of her having emptied her bladder; while the practitioner, conscious perhaps of his own inexpertness in performing this little operation, is only too ready to frame an excuse to his own mind for not attempting to do that which he knows he should do but awkwardly, and fears that he might possibly fail to do at all. To this neglect of the catheter, and to the omission to interfere instrumentally as early as is necessary, is the occurrence of vesico-vaginal fistula to be attributed far oftener than to any direct injury inflicted by the instruments themselves. After labour is over, too, the same neglect to keep the bladder empty not only adds to the patient's distress, but greatly aggravates the perhaps inevitable cystitis, and renders the case to a great degree unfit for any attempt at cure by means of a plastic operation.

Wherever, from the protraction of labour, and from the long stay of the head in the pelvic cavity, there is any reason to fear the occurrence of inflammation of the vagina, its possible issue in sloughing and in the formation of a fistula must always be borne in mind, and attention must be closely directed to the local condition of the patient as well as to her general symptoms. The bladder must be regularly emptied by the elastic catheter every six hours, a warm poultice must be constantly applied to the hypogastrium, and poppy fomentations to the vulva; while the vagina must be carefully syringed twice a day with lukewarm water, and local leeching must be at once employed on the first onset of symptoms of cystitis. The state of the parts must not be judged of from hearsay, but must be inspected

every day; a precaution which though especially necessary when any laceration of the perineum has taken place, is yet always worth taking, since the appearance of the vulva furnishes no bad index to the general state of the vagina. If the secretion from the vagina assumes an unhealthy character, and if shreds of mucous membrane appear in it, we may be sure that sloughing has taken place, and though the sloughing may be superficial, yet of this we cannot be certain, while contraction of the canal, and the formation of cicatrices are its almost inevitable results. The soothing injection previously used must now be changed for others of a more stimulating kind, while, when the parts begin to heal, it will be expedient to introduce a large gum elastic bougie into the vagina, and to allow it to remain for some hours every day, in order to prevent adhesions forming between the opposite surfaces of the vagina by which the orifice of the uterus is sometimes almost completely closed, or the vaginal canal itself is divided into two chambers, into the upper of which the uterus opens. Nor indeed are these the only possible consequences of sloughing of the vagina, but in proportion to the extent of the mischief the vagina is shortened; the edges of any fistula are permanently kept asunder, the space between the opening and the neck of the womb is diminished, while the cicatrix tissue on which the operator has to depend for the closure of the aperture is endowed with far feebler vitality than the unaltered structures of which if the mischief has been circumscribed he may hope to avail himself.

Supposing all these points to have received due attention, the next question that suggests itself concerns the period after labour at which any operation for the cure of the fistula should be attempted. Now, I believe that nothing should be done within the first three months after delivery at the soonest, for the susceptibility to inflammation is greater in the woman who has recently miscarried or given birth to a child than in another, while not only are all plastic operations about the sexual organs attended by some hazard, but a degree of local inflammation quite inadequate to cause danger to the patient, may yet more than suffice to destroy the promise of the most dexterous operation. Another reason, too, for some delay is that within certain limits a fistulous opening is likely to contract; and it is well to obtain the full amount of improvement which nature can effect before having recourse to any surgical proceeding. Besides this, too, it is of the greatest importance that a person should be in the best possible health before the operation is undertaken, and no delay can be regretted which affords the opportunity for the amendment of her general condition, and the improvement of the state of her urine. The two generally keep pace with each other, and my own impression is that to operate at a time when the health is feeble, and the urine abounds in phosphatic deposits, is completely to throw away all chance of benefiting our patient. If the aperture in the bladder is comparatively small, so that urine can be retained for an hour or so, in certain positions of the body, delay may be allowed a

month or two longer, provided that the bladder tolerate the frequent introduction of the catheter; an operation which the patient will soon learn to perform for herself. I am not, however, disposed to recommend that a catheter be kept constantly in the bladder; for a few days are generally the utmost limit during which the patient can bear it; the bladder then becoming irritated by its presence, so as to compel the removal of the instrument. Still less would I advocate the use of the plug, or of any mechanical device for restraining the outflow of the urine. All such contrivances irritate, and are likely to interfere with that healthy condition of the parts which it is so essential to maintain. In all instances, therefore, where the aperture is large, and where no urine is retained, delay continued after the effects of the puerperal processes have subsided, answers no useful end; while when waiting for this we must content ourselves with the daily use of the tepid hip-bath, with the injection of warm water into the vagina, and with most sedulous ablution and scrupulous cleanliness, as means of preventing the irritation of the parts by the perpetual escape of the urine.

It would be out of my province to go into detail concerning the operation for the closure of vesico-vaginal fistula. Two points only I may just refer to. One concerns the utility of the galvanic cautery, especially in the more chronic fistulæ, in those of small size, or whose dimensions have been reduced by other operative proceedings. By its frequent application in one case, my colleague, Mr. Paget, effected a complete cure. The other point has reference to the great merit both of the mode of operating adopted by Dr. Sims, of Alabama,[1] and also of his curved catheter, which often remains in the bladder without any trouble or any adaptation of her posture on the part of the patient, and answers the purpose of preventing all escape of urine by the wound far more effectually than a catheter of the ordinary form. Even this, however, irritates in a few days, and requires withdrawal earlier than is quite satisfactory; an evil which perhaps its construction of some very light material might in some measure obviate.

It is not necessary to say much about that rare accident *intestino-vesical fistula;* for the circumstances in which it occurs have no necessary connection with the sexual ailments of women. I have met with it but thrice. In the first case, it was associated with malignant disease of the uterus; and dysuria and painful defecation had existed for between two and three years, their occurrence being coincident with the appearance of an indurated tumour in the left iliac and inguinal regions; and the escape of fecal matter with the urine had taken place for four months previous to the patient's admission into the hospital. In the second case, the mischief succeeded

[1] *American Journal of Med. Sciences*, Jan. 1852, and a pamphlet with the title, *Silver Sutures in Surgery*, New York, 1858. His earliest and his latest suggestions present, indeed, many points of difference, but all seem tending to simplify the means of relieving this most grievous infirmity, and to increase the chances of its cure.

to ulceration of the intestines during fever nine weeks before, which had issued in the formation of a pouch communicating above with the sigmoid flexure of the colon, and below with both rectum and bladder. This patient died in the course of a few weeks, but less in consequence of the local disease than of the progressive increase of the exhaustion which the fever had occasioned. The third case was that of a young lady in whom suppression of the menses from cold was succeeded by inflammation, which involved among other parts the uterine appendages on the right side, where a distinct tumour formed. This tumour, at first quite solid, afterwards grew softer, and then diminished in size. Its diminution was not attended by any very marked discharge of pus, but about the same time purulent and fecal matter began to appear in the urine, and continued to be intermixed with it for three weeks when she first came under my notice. In this case, as in the other two, the sensitiveness of the bladder was so great that all attempts at syringing it with tepid water were of necessity discontinued; but great relief followed the use of very simple means, such as the employment of the uva ursi, of hydrochloric acid and the pareira, and the administration of opium or morphia, to mitigate suffering and to relieve the irritability of the bladder. In the case of the young lady, too, concerning whom alone was there much room for hopefulness, the fistulous communication became closed in the course of two months, and, after the lapse of a year, I saw her in perfect health; slightly diminished mobility of the uterus being the only remaining evidence of the serious bygone mischief.

I am not aware of having ever met with those *soft fungous tumours*, or polypoid excrescences from the bladder, whose true relation to malignant disease seems to be still undetermined. It is, indeed, possible that in some of the cases of dysuria which have come under my notice the symptoms may have arisen from this cause; but there is no sign actually pathognomonic of their existence, and though in all obscure cases I am accustomed to have recourse to the microscope for help, I have never yet succeeded by its means in the diagnosis of any outgrowth from the bladder.[1] In one respect, indeed, these growths conform to the same rule as decided malignant disease of the bladder, for, while not very common in either sex, they are yet infinitely rarer in the female than in the male. Of eight cases of fungoid disease of the bladder recorded in the *Transactions of the Pathological Society*,[2] there were but two in which the subject was a

[1] The general opinion, and that adopted by Rokitansky, *op. cit.*, vol. iii. p. 460, is that these outgrowths all belong to the class of malignant diseases. An opposite view is, however, maintained by Mr. Sibley, in *Transactions of Path. Society*, vol. vii. pp. 256 and 214, based on very careful microscopic observations. Gross, *On the Urinary Organs*, 2d ed., Philadelphia, 1855, p. 324, in his notice of these outgrowths, assumes their non-malignant character.

[2] The two cases in the female subject are reported in vol. v. p. 200, and vol. vii. p. 256; the others in vol. ii. pp. 85 and 237; vol. iii. pp. 125 and 127; vol. v. p. 201, and vol. vi. p. 258.

female, and in like manner of the seven cases of carcinomatous disease of the bladder on which M. Lebert[1] founds his observations, six occurred in the male subject.

In the only case of *primary malignant disease* of the bladder that has ever come under my notice, the patient was a widow woman, sixty-two years of age, who had suffered for a year previously from pain in the region of the bladder, aggravated after passing water, the calls to which became more frequent than natural, while at the same time her urine grew turbid, and deposited a thick sediment. Blood now frequently appeared in her urine, sometimes in small quantities, sometimes in clots, and about three months before I saw her she lost a large quantity at once. She had of late suffered from pain in the back, and for two months the urine had been always thick with a ropy sediment. No treatment had been adopted till three weeks before her admission into the hospital, when the patient applied to a surgeon, who introduced a catheter, an operation followed by considerable hemorrhage, which lasted for several days, though it was eventually suppressed by gallic acid.

On being received into the hospital the patient's appearance was healthy, her pulse was 80, and soft, her tongue slightly coated, her bowels were regular. No tumour was perceptible in the abdomen, but firm pressure immediately over the pubes caused some pain. The uterus was high up, small, its tissue soft and perfectly healthy. In front of the uterus, pushing it into the posterior half of the pelvis, was a firm, somewhat irregular growth, reaching from the anterior half of the pelvis in the situation of the bladder, apparently extending round that organ on either side, but much more on the right. This growth was perfectly immovable, it seemed to be connected with the pelvic walls, was somewhat tender on pressure. It was of such size as to occupy the whole anterior half of the pelvic brim, though not dipping down considerably into the pelvic cavity.

The urine was pale, alkaline, depositing ropy mucus, and under the microscope crystals of the triple phosphate and cells of nucleated epithelium were perceptible.

The patient derived considerable comfort from treatment during ten days' stay in the hospital; but returning home at the end of that time, and indulging in the intemperate habits to which she was addicted, she fell and injured her face, an accident that was followed by fatal erysipelas on the twelfth day after she left the hospital. The uterus and vagina were found on examination after death to be perfectly healthy; but the whole posterior half of the bladder was occupied by a medullary growth, with an irregular surface, which projected into the cavity of the organ, its substance being in part firm, in part almost semi-fluid. The anterior half of the bladder was quite healthy, as also was the substance of both kidneys, except that the right ureter being involved in the diseased mass was dilated

[1] *Op. cit.*, p. 876.

to three or four times its natural size, and the infundibulum of the right kidney was enormously enlarged.

As far as it went this patient's history was exactly that of malignant disease of the bladder, and had not her life been prematurely cut short, the affection would no doubt run its usual course. Hemorrhage would have returned again and again, and would have weakened the patient more and more, the increased growth would have produced increased difficulty in micturition, while the advance of the malignant disease would have been associated with the further development of the cancerous cachexia, till under these combined causes death would at length have taken place in circumstances far more painful than those by which it was actually attended.

As in this case, so I believe in most instances of primary malignant disease of the bladder, there is but little tendency to the perforation of its walls and the extension of the disease into the vagina. The constant dribbling away of the urine which sometimes attends the more advanced stages of this disease by no means necessarily indicates the existence of any communication between the bladder and vagina, but is due in many instances partly to the encroachment of the evil on the cavity of the bladder, partly to its walls having been rendered unyielding by disease, and especially to the infiltration of the tissue of the neck of the bladder with carcinomatous deposit. The observation of Kiwisch[1] is also worth repeating here, "that the occurrence of incontinence of urine in the course of cancer of the uterus is not to be regarded as a certain evidence of the occurrence of perforation of the bladder, for this symptom is frequently only the consequence of carcinomatous infiltration of the neck of the bladder, and especially of that part corresponding to the sphincter, by which it is hindered in the performance of its functions, and thus, no longer closing the ostium vesicæ, admits of the constant escape of the urine."

Though the diagnosis of fungoid outgrowths from the bladder may be obscure, yet the ordinary form of malignant disease of the organ appears to be too well marked to leave much room for uncertainty. The causeless pain and difficulty in micturition, coupled with the frequent desire to pass water; the occasional appearance of blood in the urine, sometimes in considerable quantity, and in the form of clots, while the secretion is habitually alkaline, unhealthy, and deposits a sediment, are of themselves strong evidences of the nature of the case, though scarcely conclusive unless associated with a firm, immovable tumour in front of the uterus. In the absence of the evidence obtained by vaginal examination, the extreme rarity of primary cancerous disease of the bladder always renders it the more probable supposition that the kidneys are the seat of the mischief.

There is no treatment specially applicable to malignant disease of the bladder. The indications to be followed are very obvious, and

[1] *Op. cit.*, vol. iii. p. 308.

within certain limits and for a certain time their fulfilment would not appear to be difficult. To relieve pain by opiates, to render the urine less irritating by the mineral acids, the pareira, and those other remedies to which reference has been made in the earlier part of this lecture, to keep the patient in bed, and thus to equalize as far as possible through the whole twenty-four hours the demands upon the functions of the kidneys, and to maintain the general health by good diet, and by the moderate use of stimulants, are the objects to aim at. When once the nature of the disease has been ascertained, the introduction of instruments into the bladder must be carefully avoided; while if it should become necessary to draw off the urine, an elastic catheter without its stilet must be employed with all possible gentleness. It is, however, I believe but seldom in the female subject that this disease produces actual retention of urine, though I remember a patient many years ago in the Middlesex Hospital in whom the urethra became implicated in the extension of the growth, so that it became eventually necessary to tap the bladder above the pubes, an operation which she survived only a very few days.

LECTURE XXXI.

DISEASES OF THE URETHRA AND VAGINA.

DISEASES OF THE URETHRA. Congestion of the urethra, most troublesome as a chronic ailment; its symptoms and treatment.
Vascular tumours of urethral orifice, their seat, nature, symptoms, and treatment.
Ulceration of urethra; doubts as to its syphilitic nature.
DISEASES OF THE VAGINA. Acute vaginitis; character of the discharge which attends it as distinguished from uterine leucorrhœa: its treatment.
Chronic vaginitis. Granular vaginitis, its real nature.
Cysts of vagina.
Fibrous and fibro-cellular tumours of vagina.
Cancer of vagina.

FROM the study of the affections of the bladder, we pass next by a natural transition to the examination of those incidental to the female *urethra*, a class of ailments which, though comparatively trivial, are often attended by very serious discomfort, and are by no means easy of cure.

Of these ailments, one of by no means unusual occurrence is a state of undue *congestion of the urethra*, which sometimes presents itself in an acute form, at other times has a chronic character. In the former case, it very generally accompanies a similar condition of

the pelvic viscera, and hence is chiefly observed either in newly-married women, or at the commencement of a menstrual period, or is experienced during the first few weeks of pregnancy. It is then attended by a sense of itching and irritation about the urethral orifice, which is redder than natural, slightly swollen, and tender to the touch, while micturition is accompanied by a scalding or cutting sensation, the discomfort of which induces the patient to retain her urine longer than usual.

This, however, is a temporary discomfort, lasting for the most part no longer than the cause which produced it, though its frequent recurrence may no doubt issue in the *chronic* form of the ailment which constitutes an abiding source of annoyance difficult to remove and very apt to recur. This chronic congestion of the urethra comes on with no apparent exciting cause in women who have given birth to many children, the interruption to the free circulation in the pelvic vessels having no doubt produced it, for which reason it also sometimes follows on attacks of uterine inflammation, or of pelvic abscess, or comes on during the growth of an uterine or ovarian tumour. It adds also in other instances to the distress produced by affections of the bladder, or is associated with disease of the kidney, and with morbid states of the urinary secretion. In this form of the disease there is very considerable thickening of the whole canal, which may be traced as a firm cord as thick as the finger, or even thicker, running under the symphysis pubis, somewhat tender upon pressure; while if the nymphæ are separated it may be seen as a large swelling at the upper part of the entrance of the vulva, looking almost like a distinct tumour growing from the anterior vaginal wall.[1] The long-standing congestion has here been followed, as it is elsewhere, by overgrowth of the part, by hypertrophy of the cellular tissue of the urethra, and hence, though the swelling may vary in size, and the symptoms which it produces may admit of very great alleviation, yet they never entirely disappear, and very slight causes suffice to reproduce them.

These symptoms consist in a sense of fulness and aching, accompanied by frequent desire to pass water, which is scarcely at all relieved by the act of micturition. The erect posture aggravates these discomforts, as do sexual intercourse and the approach of the menstrual period, while relief is obtained by rest and the recumbent posture. The natural tendency of the affection is, as can be readily understood, to grow more and more troublesome under the influence of those causes which first produced it; attacks of an acute kind coming on every now and then, during which the urethra becomes more swollen and more tender, and the pain in micturition extremely severe. In one instance I saw an attack of this kind issue in the occurrence of suppuration in the cellular tissue around the urethra,

[1] This condition was first described by Sir C. Clarke, *Diseases of Women*, vol. i. p. 309.

and on puncturing the abscess quite an ounce of pus escaped; but on all other occasions these attacks have subsided almost spontaneously, and without leading to any such result.

There is no other condition with which, as far as I know, this state of the urethra can be confounded. The only caution, therefore, which seems to me necessary as to this point concerns the occasional dependence of this thickened state of the urethra upon the presence of one of those small vascular excrescences of its mucous membrane, which though usually seated at its orifice, are yet sometimes so far within the lips of the canal as to escape a superficial examination.

The acute form of urethral congestion is generally so brief in its duration as scarcely to call for treatment. A tepid hip-bath, the temporary discontinuance of sexual intercourse, if the symptoms have succeeded to marriage, the avoidance of all stimulants, mild diluent drinks, and slightly alkaline waters, such as the potass, or the Vichy water, generally answer every purpose. In the chronic form of the evil, attended by more or less hypertrophy of the tissue of the urethra, complete rest is an essential, and the avoidance of any cause, such as sexual intercourse, by which congestion about the pelvic viscera can be excited or maintained. Generally, indeed, if the urethral hypertrophy is at all considerable, the act of intercourse is attended by so much discomfort as to lead to its discontinuance. One or two leeches applied by means of a small glass leech-tube to the urethra itself, and repeated weekly, or twice a week for a short time, generally afford very great relief. Frequent cold sponging, and the use of cold astringent lotions, or of cold hip-baths, confirms the improvement which depletion and careful dietetic measures had obtained. I have found, however, that any attempt at the employment of pressure, as suggested by Sir C. Clarke, was attended by more annoyance than advantage, and therefore content myself, as the removal of the hypertrophied tissue cannot be expected, with explaining to the patient the nature of her ailment, and the simple means by which, though she cannot expect a cure, she may always obtain for herself great alleviation.

Under the name of *Vascular Tumours of the Orifice of the Meatus Urinarius*, Sir C. Clarke described a very painful affection, which, though it had not altogether escaped the observation of previous writers, had yet received comparatively little notice. These tumours are hypertrophied papillæ made up of elementary fibro-cellular tissue, covered by a layer of tessellated epithelium, the thickness of which varies much in different instances, and very richly supplied with vessels.[1] They grow from the lower, and often also from the lateral margin of the orifice of the urethra, but they scarcely ever involve the whole of its circumference, or spring from its upper border. Sometimes they are furnished with a pedicle, the bulk of the growth

[1] Sir C. Clarke, *Diseases of Women*, Part I. p. 303. Paget, *op. cit.*, vol. ii. p. 282, note; Burford Norman, *London and Ed. Monthly Journal*, June, 1849, which contains an account of their microscopic structure by Mr. Queckett; and again in *London Journal of Medicine*, Feb., 1852, p. 146.

in that case projecting beyond the urethral orifice, but often they are sessile, and then distend its aperture, leaving a narrow passage at the upper part of the urethra, through which the urine flows, though not readily: the obstacle to its outflow occasioning considerable dilatation of the canal behind the excrescence. These growths vary much both in size, in vascularity, and in sensitiveness; but they do not in general exceed the bigness of a currant, are frequently smaller; and I have never seen one larger than a hazelnut, though instances are alleged of their attaining the size of a pigeon's egg, or even a still greater magnitude. Their vascularity and their sensitiveness are generally proportionate to each other; those whose colour is most vivid, bleeding the most easily, having apparently the most delicate epithelial covering, and the most exquisite tenderness.

The most vascular of these growths are of a bright cherry-red, while those which are least so are of the same colour with the surrounding mucous membrane. Though frequently solitary, yet, in many instances, two or three separate growths are situated at the edge of the urethra, or just within its orifice; and it is by no means unusual to observe several small excrescences of a similar character, but generally of a much smaller size, springing from different points of the vestibulum. Sometimes, indeed, they are scarcely larger than the head of a blanket pin, but of a vivid red colour, and most exquisitely tender. Those growths which occupy the urethra seldom extend above a sixth, or a fourth of an inch along its canal, but now and then they reach further, and cases are related in which almost the whole length of the urethra has been the seat of these excrescences, a condition the more unfortunate, since it is almost impossible of cure.

The symptoms to which these outgrowths give rise are, pain in micturition, sometimes of extreme severity, though in other cases in which the sensibility of the tumour is lowest, the sensation is one of discomfort rather than of severe suffering. Coupled with this, there is in many instances pain on any attempt at sexual intercourse, and this pain is often aggravated by the presence of the small outgrowths to which reference has been made about the vestibulum. The presence of these growths does not produce a frequent desire to pass water, but, on the contrary, it not unfrequently happens that, on account of the pain which attends the effort at micturition, patients acquire the habit of retaining their urine for a longer time than natural. When, however, the long continuance of the irritation has produced that thickening of the urethra which was spoken of a short time ago, its characteristic symptoms manifest themselves in a constant sense of weight and aching, and frequent desire to pass water.

It is not possible to say on what these outgrowths depend, though they have, in my experience, been much less common in the single than in the married, and in the young than in the middle-aged. Thus, of 18 cases of which I have preserved a record, 15 occurred in married women, only 3 in those who were single. Four of the pa-

tients were upwards of 50 years old, 4 between 40 and 50, 5 between 30 and 40, 4 between 20 and 30, and one only was under 20 years of age. All the married women, too, with but one exception, had given birth to children, and in the case of some of the patients there was a history of previous vaginitis or gonorrhœa; a circumstance which favours the suggestion of Scanzoni,[1] that in some instances these outgrowths depend on a previous chronic urethritis.

There is a condition in some respects allied to this, and productive of some of the same symptoms, in which a tumour occupies and obstructs the orifice of the urethra, formed apparently only by a hypertrophied condition of the otherwise unaltered mucous membrane, a fold of which nearly blocks up the canal, causing it to dilate behind the point of obstruction, and thus renders the act of micturition difficult and painful, though unattended by the acute sensibility which accompanies the genuine vascular tumour. In many instances this hypertrophy of the urethral mucous membrane is associated with the presence of a number of small outgrowths of mucous membrane, fringing the orifice of the vulva, or growing from the outer edge of the lips of the urethra, and productive of some degree of irritation, and even of inconvenience in sexual intercourse.

The *treatment* of these excrescences, of whatever kind, is abundantly simple, and consists in their complete removal, and in the application to the surface whence they sprang of some strong caustic, or of the actual cautery, in order to prevent their reproduction, which is otherwise very apt to occur. I am accustomed always to apply the actual cautery for this purpose, both because it most effectually arrests that flow of blood, which I have known in one or two instances where it was not employed to be so considerable as to excite alarm, and also because it has seemed to me to be more efficient than any form of caustic in preventing the reproduction of the growth.[2] The operation, though of very short duration, is so painful, that very few patients can dispense with the use of chloroform, and its administration is the more needed since it is essential that the patient should remain absolutely quiet lest the urethra should be injured. Care to avoid this accident is, indeed, the only precaution specially called for during the excision of these growths; this, however, is all the more necessary, since injury to the orifice of the urethra has sometimes been followed by incontinence of urine, or by difficulty in its retention.

If after the excision of these growths there should remain any one spot where their removal has not been quite complete, or if, though no excrescence be present, a state of morbid vascularity of the ure-

[1] Kiwisch, *op. cit.*, vol. iii. p. 298.

[2] Dr. Medoro, of Padua, recommended some years ago in an Italian journal, whence it was extracted in Schmidt's *Jahrbücher*, vol. xxxvii. p. 186, the use of the actual cautery, without previous excision for the removal of these growths. I have not tried it in this manner, but as an adjunct to excision I believe it to be most desirable.

thra should continue, such as sometimes precedes or accompanies the formation of these little excrescences, either condition is generally capable of removal by the application twice a day, for two or three weeks, of the undiluted liquor plumbi.

There is a condition of *chronic ulceration of the urethra* of which I have met with a few instances, and which it may be worth while to refer to here, since, though I believe it to be of syphilitic origin, and therefore to lie, strictly speaking, beyond my province, I yet have found no mention of it in treatises on the venereal disease.

The affection has come six times under my observation: twice in married women, who acknowledged to having suffered from venereal disease; and four times in women of unchaste life, one of whom was at the same time suffering from a secondary syphilitic eruption. In every instance the patients alleged either that they had been aware of the ulceration of the urethra, or that they had experienced difficult and painful micturition for periods varying from nine months to five years. Twice the disease was associated with an excrescence from the mucous membrane of the urethra, having the character of the less vascular form of those outgrowths which have just been described. The ulceration appears to commence at the orifice of the urethra, and to extend thence inwards towards the bladder, producing, as it extends, a great widening of the canal, and a patulous state of its orifice, so that the finger tip can enter it with ease, while the surface is the seat of large, firm, indolent granulations, which secrete a small quantity of muco-purulent fluid, are not in general very tender to the touch, but highly sensitive to the passage of urine. I have met with this ulceration of the urethra independent of any other disease of the sexual organs, but have also observed it in cases where previous ulceration had destroyed the clitoris and the nymphæ, and have seen it associated with unhealthy ulceration about the posterior commissure of the labia and the entrance of the vulva, as also with those small condylomatous growths about the vulva in cases of vascular tumour of the urethra; and these latter, indeed, are more commonly present than absent. When the disease has advanced far, or has been of long standing, the cellular tissue beneath the urethra usually becomes considerably thickened, and I have seen the lower wall of the urethra represented by a dense, cartilaginous substance, not unlike one of the lips of a hypertrophied and partially procident cervix uteri; while on two occasions I have been able to carry my finger along the whole length of the canal into the bladder.

Even when not very far advanced, this disease causes difficulty in the retention or actual incontinence of urine, while, when it has extended along the whole canal, and left its aperture permanently patulous, the patient becomes almost completely unable to retain her urine at all. One such case I saw in a young woman, aged 22, in whom there was not the least power to hold the urine, an infirmity that she said had existed many months. I gave her an elastic pessary to wear, which, by pressing against and mechanically closing the urethra, ren-

dered her more comfortable. Once, also, I saw a prostitute whose ulcerated urethra was so widely open that two fingers could be passed into the bladder with ease. She was constantly soaked with urine; but, in spite of her loathsome condition, still plied her trade, and no argument could induce her to abandon it.

Whether these cases are truly syphilitic, or whether they deserve more properly to be classed with the rodent ulcer, or lupus exedens, I am at present unprepared to say. On the one hand, their direct syphilitic origin may appear to be rendered doubtful by the circumstance that in only one instance was there any evidence of then existing venereal taint; while, on the other hand, the affection of the urethra differs from the other forms of rodent ulcer, lupus, or esthiomène, in being unattended by the same disposition to great thickening of the adjacent tissues, which, in the case of lupus of the vulva, approximates the affection, at a first glance, very closely to elephantiasis.

In its less severe forms I have seen this condition greatly improve, the pain in passing water diminish, and the ulcerations cicatrize under the use twice a day of a lotion composed of ʒj of oxide of zinc suspended by means of half an ounce of mucilage in an ounce of water, and injected into the urethra, while the surface was shielded from the irritation of the urine by the abundant application to it of the zinc ointment. At the same time the continued employment of the iodide of potass and syrup of iodide of iron have seemed to exercise a beneficial influence on the patient's general health, which in every instance has appeared to be indifferent. For the most part, however, these measures seldom prove more than palliative; but in one case of very long standing, when other means had completely failed, the repetition three or four times of the actual cautery was of the most signal benefit. It was of course applied but lightly, so as not to destroy the tissues to any depth; and under its use the large granulations by degrees disappeared, leaving a healthy surface behind; the pain in micturition subsided; the wide urethra contracted its dimensions; and the patient regained the power of holding her urine. I am not prepared, however, to say how far in this instance the amendment was lasting, or how far the most extreme cases would be amenable to the same treatment.

As we approach the end of these lectures, the interest which I would fain persuade myself attached in some degree to the subjects that were brought before your notice diminishes, I fear, at almost every step. We have come now to the study of ailments purely local in their character, often indeed painful, always annoying, sometimes dangerous, but which yet afford small matter for investigation, and seem to yield little scope for the exercise of the higher qualities of the practitioner of medicine. But an observation which I made some years ago, when addressing the seniors of our profession, may perhaps be repeated without apology to those who are but beginning the exercise of medicine, and on whom it cannot be too deeply impressed

that "the thousand smaller ills to which mankind is subject bring, in their frequent repetition, as much suffering, cause as much sorrow, and therefore are as worthy of our heartiest labour to understand, and of our best efforts to relieve, as those perilous visitants—inflammations, fevers, apoplexies, which threaten life only at long intervals, or on rare occasions."[1]

With this preface let us now pass to the study of the *diseases of the vagina*, and of the external organs of generation. And first among the ailments of the vagina we may notice, as we have done in the case of other organs, those affections which are the result of inflammation either in an acute or in a chronic form.

The *acute form of inflammation of the vagina*, apart from those cases in which it occurs in the puerperal state, is probably oftenest due to impure sexual intercourse. Between gonorrhœa, however, and acute vaginitis dependent on any other cause, there does not seem to be any certain distinction furnished either by the character of the symptoms or by their severity, while a similar treatment is applicable to both. When dependent on the contagion of gonorrhœa, the symptoms generally commence within three days after the suspected intercourse; but vaginitis may be equally excited by exposure to cold or wet, and especially by getting wet-footed; by local irritation of the sexual organs, by intemperate or unaccustomed sexual intercourse, and to this latter cause attacks of moderately severe vaginitis are not very rarely due in newly-married women.

A disagreeable sense of fulness, heat, and tenderness about the vulva, with frequent desire to pass water, and pain and scalding in the act of micturition, are the symptoms with which it sets in. Sometimes there is associated with these discomforts great swelling of the labia, which are so tender that the sitting posture can scarcely be borne, while a feeling of aching and weight extends along the perineum, and considerable tenderness of the hypogastrium announces that the bladder has become involved by the advance of the inflammation. For the first twenty-four hours the customary secretion is suppressed; but a discharge then begins to be poured out in great abundance; yellow, acrid, purulent, occasionally streaked with blood, always of an offensive smell. This discharge is chiefly furnished from the lower extremity of the vagina, though the inner surface of the nymphæ, and the parts about the vestibulum also contribute to it, and sometimes the inflammation extends along the vaginal canal, the whole of which may then pour out the discharge. In a few instances the mischief extends even further; I have seen internal metritis supervene upon inflammation of the vagina, and two successive attacks of vaginitis, after an interval of eighteen months, were followed in the same patient by such severe peritonitis as to call on each occasion for the abstraction of blood. These, however, are purely excep-

[1] *Croonian Lectures*, 8vo., London, 1854, p. 94.

tional occurrences; and in most instances the affection remains limited to the vulva and the lower part of the vagina.

If the parts are examined during the acute stage of the affection, they appear of a bright red colour, shining and swollen, while, if the finger is introduced into the vagina, the heat of the parts will be found to be greatly increased. The introduction of the finger even is almost always excessively painful, and the tenderness is so great as to render the employment of the speculum quite impossible. During the severity of the onset of the disease an abscess sometimes forms in one or other labium, usually, if not invariably, having its seat in Cowper's gland; but, supposing this not to be the case, the swelling and tenderness generally abate in four or five days, the discharge loses its acrid character and offensive odour, and except that its quantity is excessive, differs little from the muco-purulent secretion which constitutes ordinary leucorrhœa.

These changes in the character of the discharge appear to depend on the more or less abundant presence of pus globules, and of the tessellated epithelium of the vagina; desquamation of which takes place so very abundantly in vaginal leucorrhœa that it furnishes us, as Dr. Tyler Smith[1] has shown, with a very valuable means of determining the source of the discharge from which a patient suffers. To a very great extent also similar information may be gathered from the discovery in the discharge of a small infusorial animalcule first described by M. Donné, and once supposed by him to be pathognomonic of gonorrhœal, as distinguished from simple vaginitis. He soon, however, found cause to renounce this opinion, though he still alleges that the *Trichomonas* is never observed in healthy vaginal mucus, but only in the secretion when containing a large admixture of pus globules. This latter statement, too, is confirmed by the researches of Kölliker and Scanzoni,[2] who further add the remark that while never present in the cervical mucus, and by that circumstance plainly demonstrated to be something more than a mere cell of ciliary epithelium, as has been sometimes imagined, the *Trichomonas* is on the one hand not constantly present in vaginal leucorrhœa, and on the other the existence of the disease in a grave form is by no means essential to its development, since it is found in some persons in apparent health, and in whom the admixture of pus globules with the discharge though evident is yet not very considerable.

It may, perhaps, be added, that as the microscope fails to furnish us with a means of distinguishing between gonorrhœal and simple vaginitis, so no symptom or combination of symptoms is absolutely conclusive on this point. The amount of affection of the urethra certainly strengthens the suspicion of the gonorrhœal origin of the disease; but urethral inflammation and discharge are sometimes pre-

[1] *On Leucorrhœa, etc.*, chap. iv. pp. 51—79.

[2] See, with reference to these points, the very elaborate investigations of Kölliker and Scanzoni, on the secretion of the mucous membrane of the vagina and cervix uteri, in Scanzoni's *Beiträge, etc.*, vol. ii., Würzburg, 1855, pp. 128—146.

sent in cases where no suspicion of gonorrhœa can for a moment be entertained, and, according to M. Ricord, are likewise absent in cases avowedly due to impure intercourse, about once in every three times.

It is comparatively seldom, at any rate in private practice, that vaginitis or vaginal leucorrhœa comes under our notice in its acute stage. If it does, the employment of tepid hip-baths, of tepid vaginal injections, rest, and mild laxatives, usually suffice to afford relief, while, as the inflammatory symptoms subside, injections of cold water, of the diluted liquor plumbi, of solutions of sulphate of zinc, or of alum, will restrain, and in a week or two put a stop to the profuse discharge which for a season remains behind. Now and then, however, if the pain is very severe, the tenderness great, and the swelling of the labia considerable, it is expedient to apply eight or a dozen leeches to the vulva, to encourage the bleeding by a warm hip-bath, and a warm bread and water poultice, and afterwards to keep warm fomentations of two parts of the decoction of poppy and one part of the diluted lead lotion constantly applied to the vulva. These measures will, in most cases, within less than twenty-four hours, reduce a state of previously intense suffering to one of very bearable discomfort. Sometimes, however, the difficulty and pain in passing water continue very distressing, and in that case the extract and decoction of uva ursi with small doses of liquor potassæ and of the tincture of henbane seldom fail to afford very speedy and very marked relief. I am disposed to think, indeed, from my hospital experience, that the complication of vaginitis with some degree of inflammation of the bladder often fails to receive that degree of attention which it merits; for it has happened to me not unfrequently to meet with patients in whom very distressing dysuria, the evident result of chronic cystitis, was referred back to some acute attack of leucorrhœa or gonorrhœa which had occurred months before.

But it is, as I have stated, a more *chronic form of ailment* with which we oftener have to do, and this not only in cases where a leucorrhœal discharge has been left behind after the subsidence of the acute attack, but in a large number of instances where the ailment has been chronic from the outset. Such are many of the cases of leucorrhœa that occur in women exhausted by frequent child-bearing, or by prolonged lactation, or by menorrhagia. Such, too, are the instances in which leucorrhœa accompanies chlorosis, and of the same kind are those abundant discharges from the sexual organs which take place in strumous children, and which, sometimes assuming a subacute character, and being associated with much swelling of the external parts, have been erroneously supposed to be due to criminal attempts at intercourse. I may just add, however, that the discharge, in the case of the child, takes place almost entirely from the parts in front of the hymen, and is the result, therefore, rather of vulvitis than of vaginitis. Any condition which maintains, or is dependent on, habitual venous congestion of the abdominal viscera

is apt to be associated with vaginal leucorrhœa. Hence the discharge is often observed, not only in women who suffer from ovarian or other abdominal tumours, but also in patients liable to disorders of the liver, or to hæmorrhoidal affections, or who suffer from habitual constipation. Uterine tumours, and uterine misplacements, are, it is almost needless to observe, apt to be associated with vaginal leucorrhœa, while even in those cases in which the larger proportion of the discharge is poured out from the interior of the uterus, there is almost invariably a large admixture of secretion furnished from the walls of the vagina.

It is obvious that the chances of cure of this chronic vaginal leucorrhœa depend entirely on the uncomplicated character of the ailment, or on the diseases with which it is associated being of a kind to admit of removal. Thus, the leucorrhœa attendant on uterine tumours, while in itself it need not excite any solicitude, yet scarcely admits of cure, its restraint by astringent lotions being all that can be attempted. For the same reason, too, those vaginal discharges which are associated with abdominal tumours, do not admit of cure, while in those instances in which they accompany hepatic disorder or abdominal congestion, as is not unfrequently the case in women after the middle period of life, and in whom menstruation has ceased, the cure of the local ailment depends on the removal of the constitutional disorder. The leucorrhœa of the feeble and chlorotic obviously needs a tonic plan of treatment, and the administration of chalybeates, in addition to the employment of local remedies; while in the case of children, it is always necessary to ascertain that the discharge from the vulva is not produced by the irritation of ascarides in the rectum.

But, not to dwell upon points which are almost self-evident, I must just notice some of the more useful astringent applications; for to these local means we must chiefly trust, since there are no internal remedies that exercise a direct influence on vaginal discharges in the same way as cubebs and copaiba restrain uterine leucorrhœa. First among these means stands the abundant use of cold water, either for ablution, for vaginal injection, or in the form of the hip-bath; for, simple though it is, and therefore often too little had recourse to, it is not only very efficacious, but in many instances suffices of itself to arrest the discharge, and, if continued, to prevent its return. The water may be rendered more astringent by the addition of about a quarter of an ounce of alum to each pint of water used for injection, or by mixing half a pound of alum with the water used for the hip-bath, and which should be employed either on rising from bed, or, at any rate, during the morning hours, not just before going to rest at night. The alum both has the advantage of being one of the best astringents, and also of being one of those remedies with which a patient can always supply herself without the intervention of the chemist. If, however, it should fail, as all local applications, if long continued, are in turn apt to do, a more powerful injection

may be obtained by the addition of a drachm of tannin to each two drachms of the alum, or by dissolving the alum in decoction of oak-bark, instead of in water. Both of these lotions, however, have the disadvantage of staining the linen almost as indelibly as the nitrate of silver, though not of so dark a colour. The lead lotion, of various strengths, and lotions of sulphate of zinc, either alone or in combination with alum, may also be employed if other means fail, but failures very often depend on the inefficient use of the injection rather than on any fault in the remedy itself, and it is, therefore, always of importance to ascertain that the patient employs a syringe of sufficient size, and that she uses the injection when in a recumbent and not in a sitting posture. It is also always desirable that cold water should be injected into the vagina, so as to remove the discharge as much as possible before the medicated injection is employed.

I have no personal experience of the use of nitrate of silver in solution or in substance in cases of chronic leucorrhœa. There can be no doubt, however, but that, in instances of very obstinate discharge after acute gonorrhœal vaginitis, the remedy has proved of great service.[1] For very obstinate cases of vaginal leucorrhœa, a plan of Scanzoni's will probably be found successful.[2] He introduces into the vagina a plug of cotton wool, the outer surface of which has been bestrewn with alum in powder; or if there be much sensitiveness of the parts, with a mixture of one part of alum and one or two parts of loaf sugar. This plug should not be allowed to remain longer than twelve hours at a time, nor should its introduction be repeated oftener than every second or third day, injections of tepid water being employed in the intervals. The chief drawback from the adoption of this plan seems to be that unless carefully watched a very troublesome vaginitis may be induced by the remedy, which, in that case, may aggravate instead of arresting the discharge. For the majority of cases even of very chronic leucorrhœa, a safer, and, at the same time, a very efficacious mode of keeping the astringent in constant contact with the vaginal walls, is furnished by the use of the alum or tannin pessaries of Dr. Simpson.[3]

Attention was specially drawn some few years ago by M. Deville, of Paris,[4] to what he believed to be a previously unnoticed form of inflammation of the vagina, and to which, from its anatomical peculiarities, he applied the name of *granular vaginitis*. These peculiarities consist in the presence of numerous round, shot-like bodies, of a more vivid red colour than the adjacent tissues, in the depressions between the rugæ of the vagina, and especially abundant

[1] Acton, *On the Generative Organs, etc*, p. 287. [2] *Op. cit.*, p. 287.

[3] *Ed. Monthly Journal*, June, 1848, and *Obstetric Works*, p. 98. Formulæ are given there for various kinds of pessaries. The alum and tannin are made as follows: ℞. —Tanninæ ʒij; Ceræ albæ ʒv; Axungiæ ʒvj; misce, et divide in Pessos quatuor. ℞.—Alum. sulph. ʒj; Pulv. catechu ʒj; Ceræ flavæ ʒj; Axungiæ ʒvss.—Misce, et divide in Pessos quatuor.

[4] *Archives de Médecine*, 1844, Quatrième Série, tome v. pp. 305, 417.

towards the upper part of the canal. These bodies were imagined to be the hypertrophied follicles of the mucous membrane, and were supposed to bear a large share in secreting the abundant thick yellow discharge which was poured out from the vagina. The affection was further observed to be connected very closely with the pregnant state, while it scarcely ever occurred in women who had not at some comparatively recent period given birth to children.

The researches of minute anatomists, and especially those of M. Mandt,[1] have shown, however, that the vagina is singularly destitute of mucous follicles, and that these bodies are nothing else than hypertrophied papillæ. This discovery, while it explains the association of granular vaginitis with the pregnant condition, at once deprives it of all claim to be regarded as a peculiar disease. It is nothing else than vaginitis, associated with hypertrophy of the vaginal papillæ; a physiological condition in pregnancy; one which, independent of that state, may follow or accompany long-continued inflammation, irritation, or discharge.

On two occasions I have met with *cysts projecting into the vagina.* In one instance their presence gave rise to no inconvenience, and the patient, who died of fecal abscess, was not aware of their existence, though they were so low down as partially to protrude through the vulva. Two, which were of the size of a chestnut, were connected with the posterior vaginal wall, and were so firm as to convey the impression of being solid fibrous growths. The anterior cyst was smaller, softer, and felt like a small vaginal cystocele. The surface of all three was of the same color with that of the adjacent vaginal wall. After death, these cysts were found to have firm, thick, fibrous walls, to be lined by a polished membrane, and to contain a perfectly clear, glairy, yellowish, and rather viscid fluid, not unlike synovia; the anterior cyst differing from the others only in its walls being rather thinner. Similar in kind to this was a cyst described by Scanzoni,[2] which had slowly developed itself till it had attained the size of a pigeon's egg. It had probably been many years in course of development, for the patient had long experienced pain in sexual intercourse, referred to the situation of the cyst, and this pain at last became so severe as to render the act impracticable. The tumour was seated at the right side and anterior part of the vagina; it was very sensitive, tense, but yet yielded a sense of fluctuation. The mucous membrane covering it and in its immediate neighbourhood was very red, and there was abundant secretion from the vagina. The cyst was opened, and an ounce of transparent serous fluid was let out from its interior, which was felt to be lined by a smooth membrane. Injections of a solution of nitrate of silver were made into the cyst for fourteen days, in order to prevent any re-collection of the fluid, and apparently with good

[1] *Zeitschrift f. Rationelle Medizin*, 1849, vol. vii. p. 1.
[2] *Op. cit.*, p. 470.

effect; for six months afterwards no trace of the tumour could be detected. Almost identical with this was the history of the patient in my second case. She was a married woman, aged thirty-three, who for some seven years had been aware of the presence of a swelling about the size of an egg, which, though not painful, was yet the cause of inconvenience in sexual intercourse, while besides she had more or less aching about the vulva, and for six months had suffered from frequent desire to pass water and from pain in micturition. The situation and appearance of the swelling were such as immediately to suggest the suspicion that it was a procident bladder, and it was only after the introduction of a catheter that this was ascertained not to be the case. It was of the size of an egg, projecting between the labia, and its surface from exposure had assumed much of the character of ordinary integument. It was elastic, evidently containing fluid, was situated at the upper part and rather to the right side of the vulva, springing from the under surface of the right nympha, and sufficiently movable to allow of its being pushed back entirely within the vagina. On puncture nearly an ounce of glairy fluid was evacuated, and the cavity was afterwards injected with equal parts of tincture of iodine and water. The previous uncomfortable sensations were greatly relieved by the proceeding, and for a time at least the tumour was got rid of; but I do not know whether the fluid re-collected.

The only point of special moment connected with these cysts regards the distinction between them and those cases in which the vaginal wall itself is prolapsed, constituting a rectocele or a cystocele; either of which conditions, when of long standing, is associated with thickening of the vaginal wall, and may on a superficial examination be mistaken for a cyst in these situations. The complete disappearance of the tumour formed by the prolapsed vagina under pressure, and its increase upon any effort at straining, coupled with the results of the introduction of the catheter, are simple and conclusive means of distinguishing between a swelling produced by mere vaginal prolapse and one dependent on the presence of a cyst in its walls.

These cysts appear to have their origin in the substance of the muscular coat of the vagina; but M. Huguier,[1] to whom we owe an elaborate essay on this subject, speaks also of small superficial submucous cysts, seated quite low in the vagina, especially around the urethra, or at the lower part of the anterior vaginal wall. These cysts, which seldom exceed the size of a large pea, and are often smaller, appear to be merely obstructed mucous follicles, since their walls are always thin, and so transparent that their contents are visible through them. These cysts, with which I confess that I am not familiar, though Huguier speaks of them as being more frequent than the others, seem to produce no symptoms, but to

[1] *Mémoires de la Société de Chirurgie de Paris*, vol. i., 4to., 1847, pp. 326—394.

burst spontaneously, or to give way during sexual intercourse, and are therefore of less importance even than the others.

My knowledge of *fibrous tumours* of the vagina is equally fragmentary, and indeed I believe them to be still rarer than cysts connected with its walls. In the only instance that I have met with, the tumour, which was spherical in form, did not exceed the size of a cob-nut, gave rise to no symptoms, and remained quite stationary for more than two years, during which period the patient was under my observation. Sometimes, however, tumours having this origin acquire a very considerable size; and the late Professor Kiwisch[1] quotes from a German journal the history of a case in which a tumour weighing more than ten pounds sprang by a pedicle of two fingers' breadth from the posterior vaginal wall, two inches from the orifice of the canal. Tumours of this large size, however, are possibly fibro-cellular, rather than strictly speaking fibrous growths, and spring originally not from the substance of the vaginal wall so much as from the cellular tissue around it, but naturally grow as they increase in size, in that direction where they encounter the least resistance, and thus come at last to assume the appearance of pedunculated tumours of the vagina. Such is probably the nature, and will most likely be the progress, of a tumour in a patient who was under my care in June, 1857, in St. Bartholomew's Hospital. She was 33 years old, had been married eight years, and a year after marriage had given birth to her only child. She professed to have suffered habitually from some degree of dysuria, which had been aggravated after her marriage; but in August, 1856, had suddenly become so much worse, after suppression of the catamenia, from catching cold, that the use of the catheter became necessary, and had at intervals been required since. Her urine on admission was turbid and mixed with blood, but her general health was good, and the dysuria almost disappeared under the influence of rest and very simple treatment in the hospital. The cause of her symptoms seemed to be a tumour, about three fingers broad, somewhat oval in form, but with its larger end towards the uterus, and which lay in the direction of the urethra. This tumour was firm, but with some degree of elasticity; its surface was smooth, and it was not tender on pressure. Behind it, and driven quite into the posterior part of the pelvis, was the healthy uterus, which had no connection with it whatever. The introduction of the catheter was attended by some difficulty, and the instrument in entering the bladder passed much to the left side. Now, supposing this tumour to increase, as it doubtless will, it is in the direction of the vagina that it will encounter the least resistance; thither it will therefore grow; and there it will probably, in course of time, present itself as a polypoid tumour. Such, doubtless, was the history of the growth of a tumour which Mr. Paget[2] has described, and which I had the opportunity of seeing with him. It sprang originally from the right side of the

[1] *Op. cit.*, vol. ii. p. 560.

[2] *Op. cit.*, vol. ii. p. 115.

vagina, and the patient had been aware of its existence for between three and four years, though she had sought for medical advice on account of it only within the previous twelvemonth. One physician whom she consulted took it for an abscess, and punctured it; another recommended the employment of some support. It had not protruded beyond the external parts till some ten days before its removal by Mr. Paget, at which time it hung beyond the vulva as a mass five inches in diameter, of a somewhat pyriform shape, connected by a pedicle an inch and a half long and of the same thickness, with the right wall of the vagina, and the tissues beneath, just behind the right nympha, which was as it were arched over the upper part and right side of the neck or pedicle of the tumour. Its removal was accomplished with very little loss of blood; and the pedicle was found to pass by the outer wall of the vagina, in the loose tissue between it and the ramus of the pubes, and reached nearly two-thirds of the way to the uterus. The characters of the tumour, as minutely described in Mr. Paget's own notes, with a copy of which he favoured me, were just those of the fibro-cellular outgrowth, which is apt in all situations to attain a size such as the firm fibrous tumour less often reaches, and is always much slower in acquiring.

The subject of *malignant disease* of the vagina has been already in a measure anticipated in the remarks made upon uterine cancer. I am, however, inclined to think that the rarity of primitive cancer of the vagina has been to some degree exaggerated; and although the main features of the disease are the same as when it takes its point of departure from the womb itself, there are yet some reasons on account of which it deserves a separate notice. Cancerous disease of the vagina, consequent on similar affection of the uterus, begins for obvious reasons at the upper part of the vaginal canal, and travels thence downwards, involving in general the anterior more than the posterior wall. Primitive cancer of the vagina does not show the same predilection for the anterior wall; nor does it in general seem to begin at one spot, and thence extend; but, for the most part, cancerous infiltration takes place into the whole of one, or more often of both walls of the vagina simultaneously; and is at least as obvious near the vulva as in the neighbourhood of the uterus. To this rule, which obtains in all instances of fungoid cancer of the vagina (and they are by far the more numerous, since to that class may be referred 10 out of 13 cases of which I have a record), the epithelial variety of the disease forms an exception; for in that the mischief seems to begin at one circumscribed spot, not in the vicinity of the uterus, and, as far as my experience goes, in the posterior wall; and to extend to the subjacent tissues and to pass into the state of ulceration, while as yet the womb is quite unaffected, and apparently healthy tissue is to be found both above and below the seat of mischief.

The following statements embody the chief results which are deducible from the cases to which I have referred.

In 10 instances the disease was fungoid; in 3 epithelial. In 1

case only the disease, which was fungoid, was limited to the anterior wall.

In 4 cases, of which 1 was fungoid and 3 were epithelial, the disease was limited to the posterior wall. In the fungoid cases the posterior uterine lip also was affected; in the epithelial, the uterus was free, though in one instance the os uteri began to be red, spongy, abraded, and bleeding, yet I think not cancerous.

In 8 cases, all of which were instances of fungoid disease, both vaginal walls were involved. In one, however, the anterior wall was chiefly affected.

In 2 of these cases the contraction of the vagina prevented the uterus from being reached.

In 1 case there was an outgrowth from the interior of the uterus, and in 1 a granular state of the anterior lip, the nature of which was doubtful.

Or, in other words, in 6 cases the uterus was perfectly healthy; in 2 it could not be reached; in 2 the affection of the uterus was slight, and its nature not quite certain; in 3 it was the seat of decided cancerous disease; which consisted once in an outgrowth from its interior, and twice in affection of its posterior lip.

With reference to the circumstances which favour its occurrence, cancer of the vagina seems to conform to the same rules as influence the development of uterine cancer; except, perhaps, that it appears to come on at a later period of life than cancer of the womb; for only 5 of the 13 cases were observed between the ages of 35 and 50; and the remaining 8 between the ages of 50 and 66. As with cancer of the womb, so also with that of the vagina, marriage and child-bearing apparently favour its production; for only 1 of the 13 patients was unmarried; while the remaining 12 had been pregnant 71 times, and had given birth to 64 children; or, in other words, there were nearly 6 pregnancies, and 5.4 labours at the full period to each marriage.

Beyond the evidence furnished by these data of the general conformity of vaginal cancer to the same laws as govern the development of cancer of the uterus itself, I do not know that the conclusions are of much moment. The same similarity, however, between the two forms of disease, obtains also between its symptoms whichever be the situation that it occupies, and the duration of the affection appears to be about the same in both instances.

The early symptoms very closely resemble, as this table shows, those which attend the commencement of uterine cancer.

The first symptom was	pain	. . . . .	in 3 cases.
" "	hemorrhage	without pain	" 3 "
" "	"	with "	" 4 "
" "	pain and discharge		" 1 "
" "	discharge	without pain	" 2 "
			13

Pain seems to be rather more frequent as an early symptom than when the disease begins in the uterus; and pain referred to the back, increased by defecation or micturition, is also of very common occurrence throughout the disease. The pain seems of a more abiding kind than that of uterine cancer, though in a large proportion of instances the severe paroxysms of suffering, due no doubt in great measure to uterine action being excited by the advance of disease in the womb, are absent. The reason for this is furnished by the fact that vaginal cancer may run its course to its fatal issue without the womb being at all implicated, though there is unquestionably a general disposition both to the extension of mischief by contiguity to the uterus, and also to the occurrence of secondary though independent affection of that organ.

Perforation of the rectum or of the bladder is not of such frequent occurrence in this disease as might beforehand be anticipated, though the action both of the bowels and of the bladder is commonly more or less difficult and painful, and the affection of the urethra which sometimes takes place in fungoid cancer of the anterior vaginal wall may render the evacuation of the bladder not only difficult but impossible.

The practical conclusions to be drawn with reference to this form of disease are somewhat of the following kind. That it occurs, though less often, yet in the same circumstances as uterine cancer, showing the same predilection for the married over the unmarried, and for those who have been frequently pregnant over the sterile. Its general symptoms seem also to be similar, except that mere painless hemorrhage is somewhat rarer than in uterine cancer, a circumstance for which the seat of the disease in vaginal cancer probably affords a sufficient explanation. The progress of the disease appears in both instances to be analogous; the cancerous cachexia is developed in the one case as in the other, the advance of the evil is equally rapid, and the disposition to secondary deposits at least as decided in fungoid disease of the vagina as in fungoid disease of the womb.

There is but little to observe with reference to treatment, except that the topical palliatives which are of use in uterine cancer are obviously of more difficult application when the disease is seated in the vagina. The only gleam of hope that brightens the case of a patient with malignant disease of the vagina is afforded in those instances where the affection is of the epithelial kind. The similarity of structure between the vagina, vulva, and external parts shows itself, as has been so well pointed out by M. Huguier,[1] in the similarity of the diseases by which they are attacked. There is, therefore, some hope that ulcerated growths of the epithelial kind about the vagina may be found to belong to the class of lupus, or rodent ulcer, rather than to the more utterly hopeless category of

[1] *Mémoires de l'Académie de Médecine*, vol. xiv., 1849, p. 500.

diseases which are intimately allied with cancer, and that local treatment may not be so thoroughly fruitless as experience has too amply proved it to be in the case of malignant disease of the womb. But hope even derived from this source is, I fear, but too often doomed to be illusive; for, on the one hand, the position of the disease not only renders surgical interference extremely difficult, but in all the cases which have come under my notice the mischief had extended too deep into the submucous tissue for it to be possible to dissect off the diseased structure from the subjacent tissues. On the other hand, the pain attendant on the introduction of the speculum generally renders any attempt at the continuance of local treatment abortive. Some time since a case was under my care that seemed favourable for local treatment. A long strip of raised, red, large granulations extended for nearly an inch in breadth and two in length along the left and posterior wall of the vagina up to its roof, but leaving some quarter of an inch of healthy tissue between it and the neck of the womb. Mr. Paget, who was good enough to see the patient with me, was in hopes, from the absence of thickening about the parts, that the disease might be classed rather with rodent ulcer than with true carcinoma, and accordingly we determined to apply the nitrate of mercury to the affected surface. The results of this proceeding were for a time most encouraging, and though the introduction of the speculum caused pain which lasted for many hours, yet the patient gladly submitted to a plan of treatment, the benefits of which she experienced in the diminution of the previously profuse, offensive, blood-stained discharge, in the mitigation of the back-ache, and the improvement of her general health. Three or four applications of the acid produced the complete cicatrization of all but just that part of the disease which affected the roof of the vagina. In that situation, however, the application of the caustic was extremely difficult, and there the mischief spread. Deposits took place, thickening the vaginal wall, the granulations grew larger, bled more readily, and extended close up to the side of the cervix uteri, between which and the diseased structures an interval no longer existed; and thus treatment was baffled, hope was lost, and we were driven once more to recognize the very narrow limits that circumscribe our power to heal. The patient left the hospital, and died painfully a few months afterwards; and I do not know that her life could be said to have been prolonged by the local treatment, though unquestionably it was for a short time brightened by a hope which, though illusive, yet cheated her only of some suffering and some sorrow.

LECTURE XXXII.

DISEASES OF THE EXTERNAL ORGANS OF GENERATION.

INFLAMMATORY AFFECTIONS. Inflammation of the labia, its connection with obliteration of duct of Cowper's gland; description of the gland; mode in which inflammation occurs in it.

Furuncular inflammation.

Eczema. Prurigo, its rarity. Pruritus generally independent of it; causes and treatment of pruritus.

Inflammation of Follicles of Vulva.

ULCERATIVE AFFECTIONS. Tertiary Syphilis, difficulties of its diagnosis. Lupus; its characters, its relation to epithelial cancer. Case in illustration. Treatment.

MALIGNANT DISEASE, generally assumes form of Epithelial Cancer, its symptoms and course. Importance of early removal.

THE arbitrary line of demarcation which in this country separates the province of the physician from that of the surgeon has limited my experience both in private and in hospital practice with reference to the *diseases of the external organs of generation.* If, indeed, we leave out of consideration such as are the result of syphilitic infection, the remainder of these ailments are by no means of frequent occurrence, nor in general of very great importance.

Of *inflammation of the labia, nymphæ, and external organs*, except as an accompaniment of vaginitis, I have seen almost nothing, and of the unhealthy *erysipelatous inflammation* of those parts, which, occurring in the child, is apt to pass into a state of *sloughing*, I have seen very little. Indeed, notwithstanding that for nearly twenty years I have been connected with large institutions for the diseases of children, I have met with but three or four instances of its occurrence, and only one of diphtheritic inflammation of the labia and nymphæ. The circumstances in which either of these affections occurs do not seem to be as commonly met with in this country as in some parts of the continent; while they both appear to belong to the class of blood diseases rather than to be purely local ailments, such as come more strictly within the scope of these lectures.

The inflammation of the labia attendant on vaginitis, more particularly on that form of it which is dependent on gonorrhœa, sometimes extends to the cellular tissue on one or other side, and ends in the formation of abscess. For the most part, however, abscesses in the labia are not the result of diffuse inflammation, but of *inflam-*

mation seated in one of those glands which are known by the name of Duverney's, Bartholin's, or Cowper's glands.[1] They are situated one on either side of the entrance of the vagina, in that triangular space bounded by the orifice of the vagina on the one side, the ascending ramus of the ischium on the other, and the transversalis perinæi muscle on the third, and are covered by the superficial perineal fascia, and by some fibres of the constrictor vaginæ. They are small conglomerate glands, of about the size of a bean, and open by a narrow duct some seven or eight lines in length just in front of the hymen, or of the carunculæ myrtiformes, and secrete that albuminuous fluid which is poured out abundantly in sexual intercourse.

It happens sometimes that the duct of this gland on one or the other side becomes obliterated, and that the secretion then accumulates within it, causing it to form a small swelling of the size of a marble, a cob-nut, or somewhat larger, which projects at the lower part, and towards the inner surface of the labium. It may remain for some time in this condition producing little inconvenience, but in general it becomes irritated in walking, or painful in sexual intercourse, and thus the case first presents itself to our notice. If now it be opened before inflammation has attacked it, a couple of drachms of a fluid like the white of egg will be let out, the swelling will disappear, and may perhaps never be reproduced, since in many instances the cyst after a free incision has been made into it becomes obliterated. Sometimes, though no considerable annoyance has been produced by the swelling, inflammation has taken place in its interior sufficient to render its contents purulent, while in other cases the inflammation is not limited to the gland itself, but extends also to the adjacent tissue. The labium then becomes hot, swollen, and intensely tender and painful at its lower part, so that the patient is unable to move about, or even to leave the recumbent position without great suffering, while on its inner surface the gland forms an exquisitely painful prominence, and matter escapes on a puncture being made with great and usually permanent relief to the patient. It does, however, now and then happen that much suffering is produced by the successive re-formation of these tumours of Cowper's gland at intervals of two or three months, an annoyance which can only be prevented by laying the cyst freely open, and removing a

[1] Like some old discoveries, so that of the existence of these glands, first found by Duverney in the cow, and afterwards by Bartholin in the human female, became forgotten after Haller had sought for them in vain. Mr. Guthrie, in his work on *Diseases of the Bladder*, refers to them, though without giving any exact description of their form or relations; but it is to the venerable Tiedemann, of Heidelberg, that we owe our present accurate acquaintance with them. His essay, *Von den Duverneyschen Drüsen*, etc., was published at Heidelberg in 1840, his investigations having been begun the year previously. In 1850, M. Huguier published, in the *Mémoires de l'Académie de Médecine*, a description of these glands, of which he believed himself to have been the re-discoverer in 1841; for like so many of his countrymen, he was unacquainted with what had been done even in his own field of investigation beyond the borders of France.

portion of its wall, or probably by the injection of a solution of iodine into its cavity.

The above condition has never come under my notice, except in comparatively young women, and who either were married or at least were accustomed to sexual intercourse. There are some other affections, however, which have no such relation, but which are perhaps more frequent in the middle-aged than in the young, and are at least as apt to occur in the single as in the married. Very troublesome *boils*, slow in their advance to suppuration, attended by much discomfort, occurring two or three at a time, or in rapid succession after each other, fresh crops of them frequently appearing at intervals of two or three weeks, sometimes show themselves on the outer surface of the labia. The patient's attention is usually first called to them by a disagreeable itching and smarting, and she then perceives a small pimple or two with a hardened base. The pimple by degrees enlarges, and the hardness around it extends both superficially and into the substance of the labium till it forms a mass as big as a small hazel-nut. It is not attended by much general swelling of the labium, and does not form a distinct head like an ecthymatous pustule, but its surface continues flat even at the time when suppuration having taken place in it, a small quantity of matter is discharged, after which the hardened spot gradually disappears.

The only local treatment which has seemed of much service in this troublesome ailment consists in the free application of the nitrate of silver while the boils are still in the papular state. If done effectually, this often prevents the further progress of the pimple, and spares the patient much of that suffering which fomentations, poultices, and all other surgical appliances at a later period do but very imperfectly mitigate. There is no general treatment which will prevent their formation any more than that of boils elsewhere, but as their occurrence seems sometimes connected with that irritation of the sexual system which often accompanies the final cessation of the menses, we are in such cases furnished with an indication to guide us worth bearing in remembrance.

One of the most troublesome affections of the external organs is *eczema of the vulva*, which is apt to run a very chronic course, and to prove extremely intractable. For the most part the ailment appears in the flexures between the thighs and the labia, whence it extends to the labia themselves, and afterwards, as it becomes chronic, to the nymphæ, while it is not unfrequently associated with eczema about the margin of the anus, and extending along the perineum. In its acute stage it presents no difference from eczema in other parts of the body, but it seldom remains long in that condition, passing rapidly into a chronic state. In this state the labia are apt to lose the hair which naturally besets them, and they waste from removal of the fat which gives them their rotundity, while they and the nymphæ become covered with a thick, hard, white epithelium, and the mucous membrane on their inner surface becomes dry, unlubricated, harsh,

and unyielding. It is not usual for this disease to affect the vulva generally, but instances in which it has done so have come under my notice, the mucous membrane entirely losing its natural appearance, the dry, harsh, and thickened condition of the orifice of the vagina being associated with a marked narrowing of its calibre. In the worst cases, too, the disease involves the præputium clitoridis to such a degree, that its thickened indurated tissue projects between the labia, while where the opposing surfaces are in contact they continue red, abraded, and just in the condition of parts affected by acute eczema. It is noteworthy, also, that in two instances of severe chronic eczema, a vascular tumour of considerable size grew from within the orifice of the urethra, but I do not know which of the two was of the longer standing.

Those slight attacks of eczema to which some women are liable at the return of a menstrual period, from over-walking, or from similar causes, are often much relieved by the frequent application of a glycerine lotion,[1] while the parts where the eruption has been wont to appear may be afterwards rendered less irritable by the employment of pure glycerine or of zinc ointment. If the inflammation is severe, and the discharge from the surface abundant, the patient must remain in bed, and the continued application of an oxide of zinc lotion[2] will both restrain the secretion and abate the soreness, while afterwards the ablution of the parts with thin starch, and the keeping them constantly covered with the benzoated zinc ointment (a compound which has the advantage of not readily becoming rancid), seldom fails to bring about very speedy relief.

It is, however, the chronic form of eczema, attended with the desquamation of dry scales of epidermis that is most troublesome to cure, or even to relieve. I have observed it in its severest forms only in hospital patients, and these it was almost impossible to induce to remain long enough for more than some measure of alleviation of their ailment to be obtained. The distressing itching was in most instances relieved for a time by smearing the parts with cod-liver oil. The relief which this afforded, however, was but temporary, and other unctuous applications answered the same end, also only for a time, and in general less effectually. Indeed nothing short of completely modifying the state of the skin by caustic applications seemed in these cases to hold out any prospect of cure. I have for this purpose employed the solid nitrate of silver, substituting for it, as fresh and more delicate epidermis was produced, a solution of twenty grains of the salt to an ounce of distilled water. Professor Scanzoni[3] uses with the same object a solution of half a drachm of caustic potass in

[1] (Formula No. 13).
℞.—Glyc. purificati . . . ℥ij;
Aquæ rosæ . . . . ℥vj.
M. ft. lotio.

[2] (Formula No. 14).
℞.—Zinci oxydi . . . ℥ij;
Mist. acaciæ . . . ℥j;
Aquæ rosæ . . . ℥v.
M. ft. lotio.

[3] *Op. cit.*, p. 495.

an ounce of distilled water, which is to be lightly applied by means of a camel's hair pencil, und advises besides, as the disease abates, very copious and frequent ablution with cold water.

I may just add that while attention is of course necessary to the state of the bowels, and any obvious indication for the use of internal remedies must not be neglected, the affection is essentially a local one, and is to be removed by the employment of local measures.

Prurigo is often spoken of in connection with that distressing itching of the sexual organs from which women frequently suffer. While pruritus, however, is a common affection, prurigo is one of very considerable rarity; and I have never met with an instance in which the eruption was limited to those parts, though patients suffering from general prurigo are sometimes much distressed by the appearance of the eruption on the genitals, while others are driven by the irritation to scratch themselves to such a degree as to wound the skin, and thus produce little bloody points not unlike those which one sees on the top of the papillæ of prurigo. In spite of this absence of any necessary connection between the painful itching of the sexual organs and the appearance of any eruption on their surface, this will perhaps still be the most convenient place for introducing what I have to say concerning it. Though commonly spoken of as *pruritus of the pudenda* or of the *vulva*, the sensation is by no means limited to one part, but is sometimes referred to the external organs, to the surface of the labia, or to the mons veneris; at other times it is experienced about the nymphæ and the vestibulum, while sometimes it affects the vaginal canal, or even the os uteri. The circumstances in which it is met with vary as much as the situations to which the sensation is referred, and serve to show that in strict propriety the ailment deserves to be classed, as it is by some continental writers, among the nervous affections of the sexual organs. It is far from being an unfrequent attendant on the earlier months of pregnancy, and likewise sometimes accompanies organic disease of the womb, especially carcinoma in its earlier stages. It sometime attends, and still oftener precedes, the menstrual period, especially in women who menstruate scantily, irregularly, or painfully, while again it frequently occurs at the approach of the climacteric period, when menstruation has either finally ceased, or is about to disappear. It accompanies hæmorrhoids, and is sometimes one of the discomforts produced by a varicose state of the veins of the labia; it attends the onset and decline of most cases of inflammation of the vagina, and in short is seldom altogether absent when any cause whatever produces a state of unnatural congestion of the sexual organs. Now and then it is associated with a sort of herpetic eruption of the inner surface of the labia, the vesicles of which are apt to assume on bursting something of the character of small aphthous sores; but my own experience does not lead me to regard this condition as at all of common occurrence.

To describe a sensation is proverbially difficult; but it may be observed, that as this pruritus varies in degree, so it does also in kind.

It is sometimes an unpleasant sense of creeping, or formication, at other times a feeling of smarting, while in other cases the positive itching is so distressing as to be almost unbearable. Warmth always aggravates it, and with some persons it suffices to come into a warm room in order to experience an attack of it, while in the case of most patients the nights are in great measure sleepless, because to lie down in bed is at once a signal for the commencement of the itching. Cold for a moment eases it, but this relief is but momentary, and patients are driven to scratch and rub themselves in order to obtain a sort of relief which consists in the substitution of a burning, smarting sensation for the less tolerable itching. This, however, not only does no real good, but the very rubbing of the parts both aggravates the patient's condition, and also helps to produce and to keep up a state of morbid sexual excitement, which in some of these cases constitutes by no means the least of her sufferings.

The treatment obviously depends on the conditions with which this distressing symptom is associated. The empirical prescription of lotions, ointments, or other applications, without previous inquiry as to the state of the uterine functions, is worse than idle. One case I remember in which the application of the nitrate of silver to a long-standing abrasion of the os uteri was followed by the almost immediate cure of a previously very distressing pruritus. When consequent on vaginitis the cure of the inflammation and the cessation of the itching take place almost simultaneously, while in general nothing relieves the irritation which accompanies the decline of the vaginitis more than Goulard water and hydrocyanic acid, in the proportion of two drachms of the latter to eight ounces of the former. Whenever there is much evidence of congestion about the external parts, as shown either by their heat, swelling, or redness, and tenderness, a few leeches to the vulva, or to the margin of the anus, will generally give much relief, and the same local leeching is, as might be expected, of much service when the pruritus is associated with hæmorrhoids. The herpetic eruption on which Dr. Dewees of Philadelphia laid so much stress as a cause of this ailment, is relieved—as indeed are other cases, where, without any disposition to the formation of vesicles or of little aphthous ulcers, much heat and redness of the part exists—by a lotion of borax and morphia,[1] which indeed has proved more generally serviceable in my hands than any single remedy besides.

In those cases in which there is any local inflammation, or considerable congestion present, unctuous applications do not in general do much good. In others in which this condition does not exist, or has been completely removed, the employment of a liniment of half a drachm of chloroform to an ounce of olive oil, both externally and

[1] (Formula No. 15.)

℞.—Sodæ subboracis . . . ʒiv;
Morphia hydrochlor. . . gr. viij;
Aquæ rosæ . . . . ℥x.
M. ft. lotio.

to the vaginal walls, is often of great service. The pure cod-liver oil, also, often relieves the external irritation, though I suspect chiefly in those cases in which there is an approach to a state of chronic eczema; while Dr. Rigby, in his recent work, strongly advocates an ointment of equal parts of cod-liver oil and red precipitate ointment as successful in cases which have proved rebellious to other means.

There still remains the employment of the nitrate of silver, either externally or to the vaginal walls, according to the seat of irritation, but I have not myself had recourse to it, for either other remedies have relieved the ailment, or it has ceased with the removal of its cause, as in cases where it occurred during pregnancy; or the patient has no longer heeded it, as in some instances of cancer, where other and worse suffering has made the former annoyance seem less intolerable.

M. Huguier has described, with extreme minuteness, in the *Memoirs of the Academy of Medicine of Paris*,[1] the diseases of the sebaceous and piliferous follicles of the vulva. He speaks of a condition of acne of the vulva, in which the contents of some of the sebaceous follicles accumulate without any obvious cause. The number of follicles so affected is not in general considerable, though like acne of the face, which in all respects it closely resembles, the affection is extremely chronic, and different follicles are apt to become diseased in succession. The accumulation of their contents, too, sometimes occasions inflammation of the follicles, and then that disease is produced which M. Huguier terms *vulvar folliculitis*, and which has occasionally come under my observation, though far less often than it and other ailments of the external organs present themselves to one who has so peculiar a field as is furnished by the *Hôpital de Lourcine*. This affection, which he states to be most frequent during pregnancy, may occur also at other times, induced by local irritation of any kind, and especially by habitual want of cleanliness. It is characterized by the appearance in the fold of the thigh, on the outer surface and free edge of the labia, on the nymphæ, and on the base of the præputium clitoridis, of little red rounded papillæ, which at first scarcely exceed the size of a pin's head; some of them are distinct, while others are collected together into irregular patches. By degrees these follicles, at first merely congested and enlarged by the accumulation of their contents, become more inflamed, a little drop of pus may be seen at their apex; they then usually burst and shrivel, though sometimes they wither without having previously discharged their contents.

The ailment, if left untreated, is chronic in its course, and the follicles take as long as twenty or thirty days, or even longer, to pass through the three stages of eruption, suppuration, and desiccation, while successive crops will run the same course, and protract

[1] Vol. xv. p. 527.

the disease for weeks or months. It is, however, amenable to very simple treatment, such as rest, cleanliness, baths, the employment of mild astringents, such as the lead lotion, or of weak solutions of nitrate of silver.

From these eruptive diseases of the external organs we pass now to the study of some other affections, not so superficial in their character, though still seated exclusively in the integument, and in the subjacent cellular tissue. The correct classification of these diseases is very difficult, for, while some are undoubtedly of syphilitic character, others belong to the same class with lupus, and are quite independent of venereal taint, and of these some pass by gradations difficult to seize into the same class with undoubted epithelial cancer.

I do not pretend to say anything concerning the more usual varieties of syphilitic disease of the external organs. In truth, my familiarity with them is but small. I have, however, occasionally met with what would seem to have been forms of *tertiary syphilis*, but which had been of such long standing, and had proved so rebellious to treatment, that questions had been raised as to whether they were not really of a malignant character.

Such a case was that of a patient aged forty-five, who was admitted under my care with ulceration of the external parts, of a year's duration, which appeared to have caused no other considerable inconvenience than occasional difficulty in retaining her urine. On the inner surface of her left labium, and extending on to the nympha, was a sore of a semicircular form, slightly irregular in its outline, its edges somewhat indolent, its surface covered by tolerably healthy granulations. The concavity of the sore was directed upwards, its convex edge downwards, beginning by a narrow edge about a quarter of an inch below the clitoris, and extending down to about three-quarters of an inch of the lower part of the left wall of the vagina. The cicatrix of a similar sore occupied the inner surface of the right nympha, and the right side of the entrance of the vagina, and a small portion of its lower edge was still unhealed. The orifice of the urethra was red and ulcerated, but it was not unnaturally open. The uterus was healthy, and there was no enlargement of the glands in the groins.

In this patient there were no other venereal symptoms, though she confessed to having had sores accompanied by buboes, and by sore throat, fourteen years previously. Recovery, and complete cicatrization of the sores took place in three months, under the continued employment of the iodide of potass, with the black wash externally, and the occasional application of nitrate of silver. Other doubtful cases which have come under my notice have neither presented any evidence of syphilis, nor has it been possible to obtain from the patient's statements any proof of its previous existence.

The danger in such cases is scarcely of taking them for scirrhus, but rather of confounding them with some forms of epithelial carcinoma. The stony hardness of a scirrhous labium or nympha has in

it something very characteristic, and the sore which forms on the mucous surface at that early stage when alone mistake is possible, is a mere superficial abrasion of epithelium, not a distinct ulcer with raised edges. Genuine epithelial carcinoma, beginning on the external parts, is less apt to extend up the vaginal canal, and does not show the same exclusive preference for the mucous surface of the labium; while, when ulcerated, its hardness usually extends deeper, and its surface presents a more coarsely granular appearance. From rodent ulcer, or lupus, the diagnosis is more difficult. In that, however, the base of the ulcer is usually more indurated, and an indurated state of the integument extends beyond the limits of the ulcer, producing in very many instances a marked contraction of the orifice of the vulva; while, further, this disease is seldom limited to the inner surface of the labia, but in general affects their posterior part, the posterior vaginal wall for a short distance, and also, in many instances, the vestibulum; a greater extent of surface than syphilitic disease commonly involves; while lastly, in a large number of cases, there is associated with the ulceration a very remarkable disposition to hypertrophy of the labia and nymphæ.

This last peculiarity led M. Huguier,[1] who was the first person to give a minute description of this disease, to propose for one of its varieties the name of *lupus hypertrophicus*, designating its other forms *lupus serpiginosus* and *lupus perforans*. In most instances, however, the characters are so blended as to render it doubtful whether there is any special advantage in these subdivisions. The affection may be briefly described as a form of ulceration, attended by little pain, which creeps all round the vulva, healing at one part while it advances at another, indolent in its progress towards healing, but also extending slowly, having irregular, usually rather overhanging edges, the tissue of which, and of the parts immediately around, is hard and cartilaginous. It is, moreover, attended by a disposition to hypertrophy of the parts not destroyed by ulceration, as, for instance, of the labia and nymphæ, and by the formation of condylomatous growths about the entrance of the vagina and the orifice of the anus, which growths themselves also become ulcerated. It is a further characteristic of this affection that the ulcerations in healing tend to produce great contraction of the orifice of the vulva by the formation of a firm cicatrix-like tissue, which also usually occupies a greater extent of surface than the ulceration had done which it succeeds.

M. Huguier's essay contains an account of nine cases of this disease, and five have come under my own observation, making a total of fourteen cases, all of which occurred in women who were either married or were known to have indulged in sexual intercourse, with

[1] See his *Mémoire sur l'Esthioméne de la Région vulvo-anale*, in *Mém. de l'Acad. de Médecine*, 1849, vol. xiv. p. 507. The engravings of the disease are remarkably characteristic of its peculiar features.

the exception of one of M. Huguier's patients, concerning whom no mention is made on this point. Only two of M. Huguier's patients, and only one of mine, had had children, a peculiarity which seems scarcely accounted for by the impediment which, when the disease has reached an advanced stage, it may present to sexual intercourse.

The influence of age in the production of this disease is shown in the following table:—

Patients came under notice at age of Years.	Disease said to have begun, Years.	Months.	Patients came under notice at age of Years.	Disease said to have begun, Years.	Months.
20	18	6	32	30	4
21	20	6	32	29	6
22	20	6	32	31	4
24	22	0	33	25	0
26	21	0	38	28	0
26	25	0	47	46	0
30	29	0	52	45	0

Or in other words, the disease began—

Under 20 years	in 1 case.
Between 20 and 25	" 4 cases
" 25 " 30	" 5 "
" 30 " 35	" 2 "
At 45	" 1 case
" 46	" 1 "
	14

The duration of the disease, including the time during which the patients remained under observation, is shown in the following table:—

Number.	Duration.	Results. Cured.	Relieved.	Not relieved.	Died.
1	under 1 year	1			
3	" 18 months	2		1	
3	" 2 years		2		1[1]
1	" 3 "		1		
1	" 4 "	1			
4	between 8 and 9		3		1
1	" 10 " 11				1
14		4	6	1	3

It is quite evident that between this affection, which runs a course so uniformly slow, which admits of cure after the lapse of more than three years, and of great relief even after eight years, and any kind of malignant disease there must be an essential difference. More-

[1] This patient died under chloroform, and not from the advance of the disease.

over, when it runs a fatal course, it does not destroy life as cancer does, either by attacking some distant organ or by involving, as it extends, all the tissues in one common morbid change, but death takes place from peritonitis, consequent on the formation of fistulous communications between the vagina and rectum, and the contraction of the bowel whose walls have become implicated in the disease. The microscope, too, supports the distinctions which observation of the general features of the disease suggest.[1]

With reference to the distinction between these ulcerations and such as are really of syphilitic origin, it deserves notice that in one case only of M. Huguier's, did this disease appear to be grafted on syphilitic mischief; while in the other thirteen cases, though one of the patients was a prostitute, and some of the others had undoubtedly exposed themselves to the risks of contagion, not one presented the slightest symptom of any venereal affection.

The general character and progress of the disease will, perhaps, be best illustrated by the history of the case of a woman aged thirty, who was admitted under my care into St. Bartholomew's Hospital, in June, 1850. She had then been married four years, had given birth to one child at the full period, and had likewise miscarried from fright at the fifth month, a year before she came under my notice. She always had good health, though her menstruation was irregular, until after her labour, which was perfectly natural. She got about, however, too soon after her confinement, and to this indiscretion she attributed a leucorrhœal discharge, frequently streaked with blood, from which she had suffered ever since. This discharge had become more profuse since her miscarriage, but with the exception of slight pain in the back, she had not experienced any other inconvenience until two months previously. Since that time, however, she had had a good deal of pain, both in micturition and in sexual intercourse, and the discharge had become yellow, thick, offensive, and escaped in gushes. The patient said that she had lost flesh, but she did not appear either emaciated or seriously out of health.

The labia and nymphæ were much swollen, but not diseased; a

[1] The following memorandum was made, by my friend Mr. Paget, of an examination made by him after the death, under chloroform, of a young woman in whom a sore of this kind had existed for eighteen months. "In the material scraped from the free surface of the upper ulcer, there were so many small epitheliform scales, of various shapes, with well marked nuclei and nucleoli, and various granular contents, that epithelial cancer might have been suspected. But all these cells and their nuclei were small, there were no laminated epithelial corpuscles, and (which was most significant) when I examined the substance of its base, taking it from beneath, and from immediately beneath its surface, I found nothing but the natural tissues of the mucous membrane, with infiltrated, inflammatory, or reparative materials. . . . . On the whole, the result of the microscopic examination was to show certainly that the characters of these ulcers are like those of common ulcers, having no new formed structures of peculiar or specific form. If the materials taken from the surface of the ulcer had been examined during life, they would probably have led to a diagnosis of epithelial cancer. They were, however, I imagine, diseased epithelial cells from adjacent parts of the mucous membrane, or perhaps from the healing part of the surface of the ulcer."

very abundant, dirty, puriform discharge escaped on separating them. A red, granular, bleeding ulceration, with a hard surface, slightly painful to the touch, and bleeding readily, surrounded the urethra, while the finger, introduced into the vagina, discovered a continuation of a similar condition extending upwards for about an inch in breadth, by an inch and a half in length. That part of the disease, however, which extended within the vagina, was not entirely in a state of ulceration, but a thickening and infiltration of the tissues reached for some distance on either side, and the actual ulceration was of very limited extent. On the posterior vaginal wall, a little distance from the orifice of the canal, was a small, hard tubercle, the size of the top of the little finger, covered by unchanged mucous membrane.

Six months later, the external parts were more tumid, and both they and the inside of the thighs were excoriated by the profuse discharge. The tubercle on the posterior vaginal wall remained unaltered, but a strip of ulceration was creeping up on either side. Five months later, or in the middle of May, 1851, the patient became again pregnant, and on February 19, 1852, she was delivered of a live female child, after a labour of little more than five hours' duration. The tubercle at the posterior wall of the vagina had somewhat increased during her pregnancy, and the perineum felt hard and brawny. It gave way during the passage of the head, but, nevertheless, the patient passed through the puerperal state without any bad symptom, and on the 18th of March, was again received into the hospital.

The labia were then greatly swollen, but neither from anasarca nor from inflammation. Their surface was pale and much wrinkled, like the hand when long soaked in water, while the whole of the integument felt thickened like that of a part affected with elephantiasis. The nymphæ were also greatly enlarged, and projected between the labia, but otherwise their tissue did not appear to be much altered, except on their inner ulcerated surface. On separating the nymphæ, an irregular ulceration was seen surrounding the urethra, which it seemed to have partially detached from its superior connections, and passing up under the symphysis pubis. The clitoris appeared to have been destroyed by the ulceration, which extended up quite to the superior commissure of the labia, whence it passed on to the inner surface of the nymphæ, while pale rose-coloured warty granulations, exactly like those of the ulceration, surrounded the edges of the urethra, and formed a prominence about it almost of the size of a hazelnut. The edges of the lacerated perineum were cicatrized to the extent of about a third of an inch, but the rest of the ununited margins of the labia, and the walls of the vulva and vagina, as far as could be seen, were of a harder texture than natural, semicartilaginous, of a pale rose-red colour, destitute of epithelium, but smooth and not granular-looking, but just like a section of a scirrhous mass, and pouring forth a copious sero-purulent secretion.

A granulating ulceration extended for between half an inch and an inch along both walls of the vagina, that on its posterior wall ceasing at the base of the tubercle already mentioned as situated there.

The removal of the nymphæ was followed by great general amendment, and by partial cicatrization of the sore that surrounded the urethra. The granular outgrowth immediately at its orifice had by the end of May lost nearly the whole of its preternatural redness, and was covered, as were the condylomatous growths, with pale mucous membrane. The inner surface of each labium, which looked before like sections of carcinomatous growths, was covered by healthy mucous membrane. On the 8th of July, 1852, just two years from the patient's first coming under my notice, there no longer existed any positive ulceration, though in other respects matters continued much as before, except that a vividly red, though but slightly sensitive excrescence, as big as the tip of the little finger, now sprouted from the wall of the urethra and quite filled up its canal, while the papillæ which beset its margin continued as before.

From this time I never saw the patient again; but this unfinished history displays the peculiarities of the disease, its slow progress, and its partial amendment. I wish it illustrated more favourably the results of treatment, though indeed the patient left the hospital better in many respects than when she entered it, and this in spite of its never having been possible to induce her to remain there for more than three months at a time. To a certain extent good diet, rest, cleanliness, the use of the hip-bath, and simple unirritating lotions improve the state of the ulcerations; and I have sometimes flattered myself that cicatrization would speedily take place. In a few weeks, however, the limit of this improvement has usually been attained, and the patient has passed from under my care benefited indeed, but by no means cured. In the only instance in which complete recovery took place, the patient was kept steadily on a course of mild mercurial medicine with small doses of the iodide of potassium for nearly two months. In this instance, however, the ulceration did not date from longer than seven months previously, and the amount of thickening and hypertrophy of the nymphæ was inconsiderable.

In other cases I have employed preparations of mercury, iodine, and arsenic, without having been able to attribute to any one of them a special influence over the disease, and the experience of M. Huguier does not in these respects differ from my own. One point to which he refers is of great moment, namely, the expediency of removing the nymphæ, or any of the adjacent parts, which may readily admit of extirpation, provided the ulcerations upon them appear indisposed to heal. I should indeed be inclined to advocate in every case the removal both of the ulcerated nymphæ, and also of all those papillary or condylomatous excrescences which beset the orifice of the vulva as a preliminary step to any attempt at the cure of the disease. The opposing surfaces keep up mutual irritation,

while the hardened tissues prevent any application being effectually made to the ulceration about the vestibule. The outgrowths, too, around the vulva are apt to become the seat of ulceration, and also to increase by their presence the probabilities of the occurrence of a relapse. I am unable to say to what extent the use of the stronger caustics, such as the acid nitrate of mercury, may be of service in those instances in which the ulcerations are most indolent, but I am inclined, though from very slight experience on the subject, to think that where its application is practicable, the influence of the actual cautery is more beneficial in modifying the state of the parts than that of any kind of chemical escharotic.

Malignant disease of the external parts usually assumes, as might be expected, the form of *epithelial cancer*, though a case of scirrhus of the labium and one of fungoid disease of the vulva have both come under my notice. Epithelial cancer generally commences in the form of a little hard tubercle on the outer surface, but near to the edge of the labium, and without being the seat of positive pain, is yet in most instances a source of annoyance by the smarting and itching which it occasions. It may continue thus for an uncertain period—for several months, perhaps, or longer—till at length its surface becomes abraded, a serous discharge exudes from it, and then completely losing its epithelium, it presents the appearance of a circular sore seated on a hard, somewhat raised base. It now spreads by ulceration, the ulcer always retaining somewhat of a circular form, while with its extension the indurated base also reaches further and further beyond the limits of the ulceration. It constantly displays an indolent character, its edges being hard, and its surface depressed a little below the level of the surrounding integument. The granulations so distinctive of the ulceration of epithelial cancer are frequently kept in check by the constant attrition of the opposing surfaces of the labia, for it is worth notice that though the disease usually commences at the edge of the labium, the ulceration generally advances inwards towards its mucous surface, and comparatively seldom spreads outwards on the integument. From the inner surface of the labium it next involves the nympha, the præputium clitoridis, and the clitoris itself, which parts, before they are attacked by actual ulceration, generally become red, abraded, and finely granular on their surface.

For some time even after the ulceration has taken place the inguinal glands continue healthy and are not enlarged, and the general substance of the labium is not affected. Presently, however, the ulceration extends in depth; as it does so, it grows more irregular, and the granulations that beset its surface become larger, while the whole labium now looks red and swollen, feels hard and slightly irregular, and is very tender to the touch.

There is little difficulty in filling up the picture with the few dark touches needed to complete it. The disease sometimes destroys the labium, and then extends upon the integument of the thigh, as a deep, excavated, ragged ulcer, which yet does not in general dis-

charge much, nor invariably occasion severe pain. At other times a gland swells, increases rapidly in size, the skin over it then dies, and a large cancerous ulcer is left behind; while, as the disease advances, the patient loses health and flesh, and fades away, not destroyed by hemorrhage, as in uterine cancer, nor by any means constantly worn out by pain, for that is usually tolerably amenable to opiate remedies.

I should perhaps mention that I have seen one instance of the commencement of epithelial carcinoma, not on the cutaneous surface of the labium, but on the outer surface of the left nympha, in a young married woman thirty-one years old. The disease had the form of a deep hole, with ragged edges, apparently about large enough to contain a nut, but the edges were so close together that it was impossible to see to the bottom of it, while any attempt to separate them, in order to obtain a good view, gave so much pain that it was forced to be abandoned. Its edges and surface were made up of small red, semi-transparent granulations, of the size of a pin's head, and remarkably characteristic of epithelial cancer. The commencement of the disease was referred to a fall against the edge of a chair, five months before, when the patient hurt the external parts very much, and suffered from profuse hemorrhage in consequence. She would not submit to an operation then, but returned to the hospital a year afterwards, when all interference was out of the question, for the ulceration had destroyed the labium, and extended to the thigh. The poor woman had followed her occupation as a weaveress almost to the time of her admission, had suffered much, had fared ill, and had taken to opium-eating for relief. She was transferred to the workhouse, but I do not know when she died.[1]

Our data are hardly sufficient to determine satisfactorily the *duration* of this disease. I believe, however, that the tubercle which precedes the development of the carcinomatous sore may exist for a long period, even for several years, though I do not imagine this usually to be the case; but that when the process of ulceration has commenced it runs its course to a fatal issue within two years.

In the *treatment* of epithelial carcinoma the one great question to decide concerns the possibility of its removal. If let alone, at any rate after ulceration has commenced, its progress is invariably to a fatal issue; and any of the local applications which may be tried in ulcerations of a doubtful character on other parts can never be efficiently employed in diseases of the external sexual organs of women. I have not experience enough to say in what proportion of cases the disease recurs, or how long a period of immunity may be hoped for after its extirpation. Of this, however, I am sure, that present comfort is promoted, that life is decidedly prolonged, and

[1] I have also seen one instance, in a woman aged thirty-four, of the simultaneous occurrence of malignant ulceration of the interior of the labia and nymphæ, and of epithelial carcinoma of the skin of the pubes. Death took place in twenty months. There was infiltration of cancerous matter in the body of the uterus, but its cervix was healthy, and no secondary deposits existed in any other organ.

that a chance, if but a slender chance, at any rate the only one, is thereby afforded the patient of a permanent cure. The surgery of the operation lies beyond my province; the only suggestion that I would venture to give concerning it is, that care should be taken to remove enough, and that the operator should not, through fear of making too large a wound, carry his incisions too near to diseased tissues.

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THE END.

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